4K97-16

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE WESTWARD REGION, 1995

By

Westward Region Shellfish Management Staff

Regional Information Report[1] No. 4K97-16

Alaska Department of Fish and Game
Commercial Fisheries Management and Development Division
211 Mission Road
Kodiak, Alaska 99615

March 1997

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OVERVIEW

The Alaska Department of Fish and Game (ADF&G) Westward Region includes the Gulf of Alaska south of Cape Douglas (58°52' N. lat.) on the Alaska Peninsula, the Kodiak Island and Aleutian Islands group and the Bering Sea northeast from the U.S.-Russian convention line of 1867 to Norton Sound (Figure 1-1). Encompassed is 525,000 square miles of the most productive shellfish habitat in the world. The major commercial shellfish fisheries are king crab (three species), Tanner crab (two species), Dungeness crab and scallops. Minor fisheries occur for Korean hair crab, *C.* tanneri Tanner crab, snails, shrimp, clams, octopus, sea cucumbers and sea urchins.

The regional ADF&G office is in Kodiak with a field office in Dutch Harbor. This report documents shellfish activities in the Region which are in progress year around. ADF&G fishery biologists are charged with state management and research programs associated with all commercially utilized stocks of shellfish. The full-time management staff consists of eight biologists, one secretary and one field office assistant. Approximately 12 seasonal personnel are hired for shellfish assessment cruises, logbook programs, shipboard observations, interviews, dockside sampling, data entry, secretarial assistance and overseeing the floating processor observer program.

In 1995, approximately 500 catcher vessels, 28 catcher processors, 26 shorebased processors and 16 floating processors engaged in harvesting and processing shellfish resources (Table 1-1). The 1995 Westward Region crab landings of 92 million pounds were worth $228 million, exvessel value (Table 1-2). The landings of crab were at the lowest point since 1984, however the value of the fisheries was reduced by only 18% from the previous year. The leading fishery was Tanner crab with landings of 88 million pounds worth $194 million. King crab was the second most valuable fishery worth $32 million

There was not any regional trawl shrimp harvest in 1995 (Table 1-3). Poor production in recent years discouraged fishermen and processors from participating in 1995. The results of a 1992 shrimp survey, which was conducted in historically important areas indicated that shrimp stocks were extremely depressed. A slight improvement over recent years was noted on deep grounds over 90 fathoms but overall levels are still far below those experienced several decades ago.

The 1995 king crab harvest was approximately 11.9 million pounds (Table 1-4). The red king crab seasons were closed once again in Kodiak, Alaska Peninsula and Dutch Harbor. These areas have been closed continuously since 1983. The Department has surveyed these areas to assess the populations which continue to show little or no recruitment In addition, the Bristol Bay was again closed to king crab fishing in 1995. The area has supported the largest king crab fishery in the state, but concerns for the reproductive capacity of the stock led to a closure of the last two fisheries. Adak brown king crab became the highest value king crab fishery with a catch of 4.6 million pounds and exvessel value of $12 million.

The 1995 Tanner crab fisheries produced 80 million pounds, (Table 1-5) which was nearly a 50% reduction from the previous season. The value however, remained nearly steady at $194 million.

The catch was comprised of 95% *Chionoecetes opilio* Tanner crab. The outlook for *C. opilio* stocks indicates a high population, but overall recruitment to the fishery remains unknown. A strong cohort is present in the north and west extremes of the Bering Sea but little is known about growth rates and the size of maturity in that region. *C. bairdi* stocks are small in a historic sense and population is comprised of old shelled animals. Survey information does not indicate a quick rebuilding of that stock in the near future. Fisheries for deep water Tanner crabs, C. tanneri and *C. angulatus* have been developing in recent years. Landings remain minor but have occurred in all districts of the region.

The 1995 Dungeness crab harvest was one half million pounds (Table 1-6). This was the lowest harvest since 1977. The Kodiak district produced the majority of the catch.

In September 1988 the Alaska Board of Fisheries adopted the mandatory observer requirement for vessels processing king and *C. bairdi* crabs. The Board adopted the same requirements for *C. opilio* processing vessels in September 1990. The regulations required industry to fund the observers which are provided by a third party contractor and certified by the Department of Fish and Game. The observer program has been active for over five years with observers participating in nine fisheries annually. Data indicate that observer presence onboard has deterred the taking of undersized crab on catcher processors. Recently, the observer program has come to be relied on to provide biological data on both targeted species and bycatch.

Fisheries in the Westward Region are managed by areas that vary according to species. Those that occur in the Bering Sea, Western Aleutians, Eastern Aleutians, Alaska Peninsula or Kodiak are summarized in this report under those section headings.

Table 1-1. Shellfish processors operating in the Westward Region during the 1995 fishing seasons.

Location	Company	*Products	Superintendent
Kodiak	Alaska Fresh Seafoods	KTMD	Dave Woodruff
	Alaska Pacific Seafoods	TMD	John Sevier
	Cook Inlet Processing	KTMD	Tim Blott
	Emerald Island Seafoods	KMTD	Chris Schopen
	Great Northen Sea Prod Inc.	M	Larry Nelson
	International Seafoods of Alaska	DM	Dane Carros
	King Crab Inc.	KTMD	Mike Simpson
	Tyson Seafoods	D	Mike Robinson
	Western Alaska Fisheries	KTMD	Ken Allread
Sand Point	Trident Seafoods	TD	Paul Pagette
King Cove	Peter Pan Seafoods	KT	Mark Hanson
Akutan	Trident	KTM	Brett Jones
Dutch Harbor	Alyeska Seafoods	KT	Frank Kelty
	Westward	KT	Don Goodfellow
	Royal Aleutain Processors	KTMD	Steve Stubbe
	East Point Seafoods	KT	Ken Doris
	Unisea Incorporated	KTM	Bob Quinlin
	Bering Star (Icicle)	T	Bart Cox
	Unalaska Seafoods	TM	Richard Bray
	Prime Alaska	KTM	Robert Johnson
	Alaska Sea Urchin Co.	M	Mark Horne
	Mr. B (Eastpoint)	T	Ken Doris
	Osterman Fish	KTM	Richard Osterman
St. Paul	Trident Seafoods	KTM	John Oaksmith
	Unisea Barge	KTM	Al Mendoza
	Arctic Star (Icicle)	KT	Mike Clutter
FLOATER PROCESSORS			
	Alaskan I	T	
	Alaska Packer	KT	
	Aleutian Falcon	T	
	Blue Wave	KT	
	Coastal Star	KT	
	Galaxy	KT	
	Independence	T	
	Midas	KT	
	Northland	T	
	Ocean Pride	T	
	Omni Sea	T	
	Sea Alaska	KT	
	Snopac	T	
	Steller Sea	KT	
	Tempest	KT	
	Yard Arm Knot	KT	

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Location	Company	*Products	Superintendent
CATCHER PROCESSORS			
	Alaskan Enterpriese	T	
	American Champion	T	
	Baranof	KT	
	Bountiful	T	
	Carolina Boy	M	
	Carolina Girl II	M	
	Courageous	KT	
	Deep Sea Harvester	KT	
	Fortune Hunter	M	
	Glacier Enterprise	KT	
	Golden Pisces	T	
	Gulf Wind	KT	
	Karla Faye	KT	
	Kiska Enterprise	KT	
	Lorraine Carol	M	
	Mr. Big	M	
	Northern Enterprise	T	
	Olympic	KT	
	Pacific Wind	KT	
	Patricia Lee	K	
	Pavlof	KT	
	Pro Surveyor	T	
	Provider	M	
	Pursuit	M	
	Royal Enterprise	KT	
	Southern Wind	KT	
	Tradewind	M	
	Western Enterprise	T	
	Westward Wind	KT	

* K=King Crab
T=Tanner Crab
S=Shrimp
D=dungeness
M=Scallops, Clams, Haircrab, Octopus, Urchins

Table 1-2. Westward Region king crab, shrimp, Tanner crab and Dungeness crab pounds, price per pound and value to the fishermen since, 1950-1995.

Year	SHRIMP			KING CRAB			TANNER CRAB[a]			DUNGENESS CRAB			TOTAL	
	#[b]	Price[c]	Value[d]	#[b]	Price[c]	Value[d]	#[b]	Price[c]	Value[d]	#[b]	Price[c]	Value[d]	#[b]	Value[d]
1950				2.1										
1951				.8										
1952				.7										
1953				3.3										
1954				6.6										
1955				5.5										
1956				10.9										
1957				12.3										
1958				12.4										
1959				16.4										
1960	3.4	.039	.13	30.4	.085	2.58							33.9	2.71
1961	11.0	.04	.44	38.6	.095	3.66							49.6	4.10
1962	12.6	.04	.50	49.5	.10	4.95				1.9	.09	.17	64.0	5.62
1963	10.1	.043	.43	66.8	.10	6.68				2.4	.09	.21	79.3	7.32
1964	3.9	.04	.15	91.8	.10	9.18				4.2	.09	.38	99.9	9.71
1965	13.8	.04	.55	138.2	.128	17.68				3.3	.12	.40	155.3	18.63
1966	24.1	.045	1.08	136.2	.11	14.90				1.2	.13	.16	161.5	16.14
1967	39.6	.045	1.78	103.4	.26	26.88	.1	.07	.007	6.6	.13	.86	149.7	29.53
1968	39.7	.04	1.58	69.0	.26	17.94	2.7	.10	.27	8.0	.14	1.12	119.4	20.91
1969	45.0	.055	2.48	54.7	.28	15.32	8.5	.11	.64	3.8	.16	1.08	115.0	19.82
1970	68.2	.04	2.73	49.9	.30	14.97	11.3	.11	1.24	5.7	.14	.80	135.1	19.74
1971	88.6	.04	3.54	52.8	.39	20.59	9.8	.11	1.07	1.4	.18	.25	152.6	25.45
1972	78.0	.04	3.12	70.4	.55	38.72	15.6	.13	2.03	2.1	.40	.84	166.1	44.71
1973	117.8	.08	9.42	69.3	.45	31.18	38.0	.17	6.46	2.2	.50	1.10	247.1	48.16
1974	104.0	.08	8.32	94.3	.45	42.43	43.4	.20	8.68	.8	.47	.38	242.5	59.81
1975	92.1	.08	7.37	96.7	.66	63.82	33.2	.17	5.64	.6	.61	.37	222.6	77.20
1976	119.3	.10	11.93	101.4	1.37	138.91	64.8	.20	12.96	.08	.15	.01	285.6	168.81
1977	110.6	.13	14.38	94.6	1.34	126.76	86.4	.33	28.51	.1	.30	.03	291.7	169.68
1978	64.2	.165	10.59	119.9	1.60	191.80	114.3	.43	49.15	1.3	.75	.98	301.4	253.16

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Table 1-2. (page 2 of 2)

Year	SHRIMP			KING CRAB			TANNER CRAB[a]			DUNGENESS CRAB			TOTAL	
	#[b]	Price[c]	Value[d]	#[b]	Price[c]	Value[d]	#[b]	Price[c]	Value[d]	#[b]	Price[c]	Value[d]	#[b]	Value[d]
1979	44.6	.225	10.03	151.6	.95	144.02	84.2	.55	46.30	1.	.75	1.05	314.0	211.06
							32.2	.30	9.66					
1980	43.1	.29	12.49	189.6	1.05	199.08	4.0	.55	35.20	2.0	.45	.90	338.20	255.97
							39.5	.21	8.30					
1981	21.5	.27	5.81	85.3	2.0	170.60	49.3	.65	32.05	5.6	.70	3.92	214.40	226.08
							52.7	.26	13.70					
1982	11.2	.27	3.02	38.5	3.75	144.48	34.2	1.65	56.43	5.3	.75	3.98	118.5	229.19
							29.3	.73	21.38					
1983	2.8	.35	.98	25.0	3.00	75.00	31.4	1.25	39.25	5.90	1.05	6.20	91.3	130.60
							26.2	.35	9.17					
1984	2.9	.33	.95	17.1	2.75	47.02	18.8	1.10	20.68	6.0	1.40	8.40	70.8	86.22
							26.0	.30	7.80					
1985	1.2	.20	.24	20.4	2.50	51.00	18.4	1.50	27.60	4.6	1.20	5.52	109.1	103.71
							64.5	.30	19.35					
1986		.25	.13	17.3	3.50	60.50	13.2	1.90	25.08	1.2	1.15	1.38	128.7	144.99
							96.5	.60	57.90					
1987	0.0	0.00	0.00	27.3	3.50	95.46	7.6	2.11	16.02	1.7	1.25	2.07	138.5	189.98
							101.9	.75	76.43					
1988		Confidential		20.0	3.98	79.37	9.9	2.36	23.40	2.3	1.06	2.44	167.6	209.86
							135.4	.77	104.25					
1989	0.0	0.00	0.00	22.7	4.02	91.07	14.0	2.94	41.17	3.1	1.10	3.40	189.3	247.74
							149.5	.75	112.10					
1990	0.0	0.00	0.00	34.7	4.21	145.93	28.2	1.91	53.86	3.0	1.51	4.55	227.6	307.74
							161.7	.64	103.40					
1991	0.0	0.00	0.00	28.3	2.94	83.25	42.0	1.14	48.02	1.5	1.50	2.04	400.4	297.64
							328.6	.50	164.30					
1992		Confidential		19.1	3.79	72.56	34.3	1.55	53.21	1.7	.86	1.43	370.4	284.85
							315.3	.50	157.65					
1993		Confidential		26.6	3.47	92.30	25.3	1.69	42.76	1.7	.92	1.56	284.4	309.71
							230.8	.75	173.10					
1994	0.0	0.00	0.00	12.6	4.21	53.00	7.8	3.75	24.25	1.2	1.20	1.44	171.4	278.44
							149.8	1.30	194.74					
1995	0.0	0.0	0.00	11.9	2.67	31.82	4.2	2.80	11.85	0.7	1.72	1.20	92.1	227.73
							75.3	2.43	182.86					

[a] *C. bairdi* and *C. opilio*
[b] Millions of pounds
[c] Dollars
[d] Millions

Table 1-3. Historic domestic trawl shrimp catch, Alaska Westward Region, 1960-1995.

Calendar Year	Kodiak	Chignik	South Peninsula	Aleutians	Total
1960	3,379,000				3,379,000
1961	11,083,500				11,083,500
1962	12,654,300				12,654,300
1963	10,118,500				10,118,500
1964	3,946,900				3,946,900
1965	13,810,500				13,810,500
1966	24,097,100				24,097,100
1967	38,722,100	879,900			39,602,000
1968	34,468,700	1,153,700	4,137,400		39,759,800
1969	41,243,600	419,900	3,365,600		45,029,100
1970	62,369,300	1,226,800	4,634,700		68,230,800
1971	82,153,724	987,900	5,532,400		88,674,024
1972	58,352,319	4,829,800	14,740,800	94,627	78,017,546
1973	70,511,477	26,884,200	20,022,000	456,179	117,873,858
1974	48,771,375	23,392,400	26,145,900	5,749,407	104,059,082
1975	46,806,799	24,435,400	20,044,400	893,567	92,180,166
1976	51,400,472	27,059,700	37,170,300	3,670,609	119,301,081
1977	31,801,573	27,797,739	46,454,376	4,599,858	110,653,546
1978	22,820,135	22,976,720	11,812,795	6,618,263	64,227,913
1979	14,540,901	23,722,330	3,134,367	3,236,721	44,634,319
1980	27,783,437	12,843,270	CLOSED	2,479,350	43,106,057
1981	19,030,341	70,948	CLOSED	2,398,458	21,499,747
1982	10,884,059	0[a]	0[a]	341,551	11,225,610
1983	2,779,030	0[a]	0[a]	5,600	2,784,630
1984	3,023,438	0[a]	0[a]	0[a]	3,023,438
1985	1,159,912	0[a]	0[a]	0[a]	1,159,912
1986	453,468	0[a]	0[a]	0[a]	453,468
1987	0[a]	0[a]	0[a]	0[a]	0[a]
1988	Confidential[b]	0[a]	0[a]	0[a]	Confidential[b]
1989	0[a]	0[a]	0[a]	0[a]	0[a]
1990	0[a]	0[a]	0[a]	0[a]	0[a]
1991	0[a]	0[a]	0[a]	0[a]	0[a]
1992	0[a]	0[a]	0[a]	Confidential[b]	Confidential[b]
1993	1,704	0[a]	0[a]	Confidential[b]	Confidential[b]
1994	0[a]	0[a]	0[a]	0[a]	0[a]
1995	0[a]	0[a]	0[a]	0[a]	0[a]
AVERAGE (Years Fished)	26,720,606	14,128,629	15,236,533	2,377,888	41,963,058

[a] Season Open - No Catch Reported

[b] Catches by less than three vessels remain confidential.

Table 1-4. Historic king crab catch by registration area for Alaska's Westward Region (in thousands of pounds), 1950-1995.

Year	K Kodiak	M Alaska Peninsula	O Dutch Harbor	R Adak	Q Bering Sea	T Bristol Bay	Total Westward Region	Foreign	Total
1950	60.0	2,124.0	0	0	0	0	2,184.0	0	2,184.0
1951	200.0	599.0	0	0	0	0	799.0	0	799.0
1952	400.0	298.0	0	0	0	0	698.0	0	698.0
1953	900.0	380.0	0	0	0	2,000.0	3,280.0	11,356.0	14,636.0
1954	4,000.0	317.0	0	0	0	2,329.0	6,646.0	8,086.0	14,732.0
1955	2,000.0	1,641.0	0	0	0	1,878.0	5,519.0	8,693.0	14,212.0
1956	4,800.0	4,221.0	0	0	0	1,896.0	10,917.0	8,308.0	19,225.0
1957	5,000.0	6,687.0	0	0	0	588.0	12,275.0	8,548.0	20,823.0
1958	5,200.0	7,246.0	0	0	0	7.0	12,453.0	8,136.0	20,589.0
1959	10,200.0	6,167.0	0	0	0	0	16,367.0	11,602.0	27,969.0
1960/61	21,064.0	6,700.0	0	2,093.7	0	598.0	30,456.5	24,611.0	55,067.5
1961/62	28,962.9	3,900.0	533.0	4,776.0	0	459.0	38,630.9	40,404.0	79,034.0
1962/63	37,626.7	2,273.0	1,536.0	8,006.5	0	74.0	49,543.2	49,516.2	102,782.2
1963/64	37,716.2	6,539.0	3,893.0	17,903.7	0	747.0	66,798.9	56,671.0	123,469.9
1964/65	41,596.5	14,354.0	13,761.0	21,193.0	0	910.0	91,815.0	63,076.0	154,891.3
1965/66	94,431.0	14,713.0	19,196.0	8,040.0	0	1,762.0	138,142.4	41,405.0	179,547.4
1966/67	73,817.8	22,577.0	32,852.0	5,883.1	0	997.0	136,126.9	43,998.0	180,124.9
1967/68	43,448.5	17,252.0	22,709.0	16,948.9	0	3,102.0	103,460.4	32,528.0	135,988.4
1968/69	18,211.4	10,944.0	11,300.0	19,874.8	0	8,687.0	69,017.2	27,681.0	96,698.2
1969/70	12,200.5	4,137.0	8,950.0	19,055.4	0	10,403.0	54,745.9	14,113.0	68,858.9
1970/71	11,719.9	3,425.7	9,652.0	16,057.0	NF	8,559.2	49,913.6	12,930.0	62,843.6
1971/72	10,884.1	4,123.1	9,391.6	15,475.9	NF	12,995.8	52,869.7	6,188.0	59,057.7
1972/73	15,479.9	4,069.3	10,450.4	18,724.1	NF	21,744.9	70,490.7	4,721.0	75,211.7
1973/74	14,397.3	4,260.6	12,722.7	9,741.5	1,276.6	26,913.6	69,331.8	1,279.0	70,610.8
1974/75	23,582.7	4,572.1	13,991.1	2,775.0	7,107.3	42,266.3	94,274.0	2,618.0	96,892.0
1975/76	24,061.6	2,605.3	15,906.6	437.1	2,433.7	51,326.2	96,747.4	0	96,747.4
1976/77	17,966.8	958.8	10,198.4	2.3	8,356.1	63,919.7	101,399.8	0	101,399.8
1977/78	13,503.6	726.3	3,684.4	953.0	8,201.8[a]	69,967.8	94,567.9	0	94,567.9
1978/79	12,021.8	3,093.8	6,824.1	807.2	10,387.7[a]	87,618.3	119,933.7	0	119,933.7

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Year	K Kodiak	M Alaska Peninsula	O Dutch Harbor	R Adak	Q Bering Sea	T Bristol Bay	Total Westward Region	Foreign	Total
1979/80	14,608.9	4,453.5	15,010.9	490.7	9,230.3[a]	107,828.0	151,647.4	0	151,647.4
1980/81	20,448.6	5,080.6	19,053.6	1,478.4	11,543.8	129,948.5	187,553.5	0	187,553.5
1981/82	24,237.6	3,147.5	5,231.1	2,843.0	13,772.5	33,591.4	85,291.4	0	85,291.4
1982/83	8,729.2	1,627.7	1,616.2	9,708.1	13,447.3	3,001.2	38,497.8	0	38,497.8
1983/84	111.4[b]	CLOSED	1,810.0	10,109.6	11,701.9	CLOSED	25,463.1	0	25,463.1
1984/85	22.2[b]	CLOSED	1,521.1	5,508.7	4,701.3	4,182.4	17,115.2	0	17,115.2
1985/86	63.6[b]	CLOSED	1,968.2	11,931.0	2,959.8	4,174.9	20,405.4	0	20,405.4
1986/87	146.5[b]	CLOSED	1,869.2	13,510.2	1,262.1	11,393.9	17,308.5	0	17,308.5
1987/88	67.2[b]	CLOSED	1,383.2	3,190.0[c]	2,200.9	12,289.1	19,130.4	0	19,130.4
1988/89	2.8[b]	CLOSED	1,545.1	9,571.1[d]	1,488.3	7,387.8	19,955.1	0	19,955.1
1989/90	*	CLOSED	1,852.2	9,251.9[d]	1,428.2	10,264.8	22,657.8	0	22,657.8
1990/91	*	CLOSED	1,718.8	9,606.3	1,725.3	20,362.3	33,412.7	0	33,412.7
1991/92	0	CLOSED	1,447.7	6,128.7[d]	3,372.1	17,177.9	28,126.4	0	28,126.4
1992/93	*	CLOSED	1,357.0	7,248.1[d]	2,474.0	8,043.0	19,122.1	0	19,122.1
1993/94	*	CLOSED	915.5	5,368.4	5,675.0	14,628.6	26,587.5	0	26,587.5
1994/95		CLOSED	1,750.3	5,205.5	5,206.5	CLOSED	12,603.0	0	12,603.0
1995/96		CLOSED	1,994.0	4,644.7[e]	5,304.7	CLOSED	11,943.4	0	11,943.4[e]

*Confidential catch

[a] Fishing year - July 1 through June 30

[b] Brown crab, red king closed since 1982/83

[c] Through January 31

[d] Calendar year

[e] Preliminary Total

Table 1-5. Westward Region historic Tanner crab *C. bairdi* and *C. opilio* catch (in pounds) for Alaska, 1965-1995.

Year[a]	Kodiak	Chignik[b]	South Peninsula	Eastern Aleutians	Western Aleutians	Bering Sea *C. opilio*	Bering Sea *C. bairdi*	Total U.S. Harvest	Total Foreign Harvest
1965	0	0	0	0	0	0	0	0	3,936,000
1966	0	0	0	0	0	0	0	0	7,290,000
1967	110,961	0	5,000	0	0	0	0	115,961	24,000,000
1968	2,560,687	0	131,700	0	0	0	17,900	2,710,287	30,940,000
1969	6,796,477	0	644,400	0	0	0	1,008,900	8,449,777	47,668,000
1970	7,749,859	0	2,022,427	0	0	0	1,014,700	11,259,447	47,828,000
1971	7,436,414	152,256	2,140,755	0	0	0	166,100	9,875,888	39,886,000
1972	11,898,054	23,343	3,618,883	0	0	0	107,761	15,662,354	31,186,000
1973	31,113,459	747,788	5,615,563	62,128	168,354	0	231,668	38,008,640	27,886,000
1974	25,479,717	4,202,671	9,503,366	498,836	71,887	0	5,044,197	43,409,968	27,912,000
1975	17,535,844	3,649,444	5,195,800	77,164	3,350	0	7,284,378	33,225,873	18,456,000
1976	23,446,245	6,926,161	11,201,941	534,295	62,180	0	22,341,475	64,818,920	19,286,000
1977	20,720,079	5,672,919	6,773,838	1,301,654	0	0	51,455,221	86,405,326	21,520,173
1978	33,271,472	4,693,830	7,446,270	2,624,016	237,512	1,716,124	66,648,954	116,014,238	33,057,796
1979	29,173,807	2,536,105	8,684,408	1,092,311	197,244	31,102,832	42,547,174	116,411,771	32,914,536
1980	18,623,875	3,517,920	3,961,251	879,807	337,297	39,344,323	36,614,315	103,507,133	15,636,125
1981	11,748,629	3,653,723	3,294,106	654,514	220,716	50,483,055	29,732,086	102,056,808	0
1982	13,756,159	3,240,526	4,589,042	739,694	838,627	29,351,474	11,008,779	63,542,301	0
1983	18,927,061	3,497,370	2,863,798	547,830	448,399	26,128,410	5,273,881	57,686,749	0
1984	14,789,903	659,043	1,789,883	239,395	191,954	26,813,074	1,208,223	45,691,225	0
1985	12,024,553	385,838	2,561,868	165,529	66,549	65,998,875	3,151,498	82,900,497	0
1986	8,974,520	184,907	3,763,761	166,939	72,441	97,984,539	0	109,674,455	0
1987	4,833,473	195,060	2,400,784	160,292	42,761	101,903,388	0	109,535,758	0
1988	3,888,906	183,111	3,328,809	309,918	169,289	134,060,185	2,210,394	144,150,612	0
1989	5,208,999	323,120	1,055,082	328,696	53,181	149,455,340	7,012,965	163,437,891	0
1990	3,456,314	0	0	171,785	48,746	161,742,748	24,549,299	189,968,822	0
1991	1,917,713	0	0	50,038	14,779	328,647,269	40,081,555	370,711,294	0
1992	2,400,213	0	0	98,703	7,825	315,302,034	31,796,381	349,605,156	0
1993	1,318,446	0	0	118,609	2,293	230,787,000	23,908,272	256.134.620	0
1994	0	0	0	0	0	149,775,765	7,766,886	157,542,651	0
1995	0	0	0	0	0	75,252,677	4,233,061	79,485,738	0

[a] Calendar year

[b] Chignik and South Peninsula catches combined 1967 through 1970.

Table 1-6. Alaska Westward Region historic Dungeness crab catch (in pounds) by district, 1962-1995.

Calendar Year	Kodiak	Alaska Peninsula	Aleutians	Total
1962	1,904,567	0	0	1,904,567
1963	2,487,512	0	0	2,487,512
1964	4,162,182	0	0	4,162,182
1965	3,311,571	0	0	3,311,571
1966	1,148,600	0	0	1,148,600
1967	6,663,668	0	0	6,663,668
1968	6,829,061	1,259,000	0	8,088,061
1969	5,834,628	1,056,000	0	6,890,628
1970	5,741,438	13,000	0	5,754,438
1971	1,445,864	11,000	0	1,456,864
1972	2,059,536	65,000	0	2,124,536
1973	2,000,526	194,500	0	2,195,026
1974	750,057	0	60,517	810,574
1975	639,813	0	4,408	644,221
1976	87,110	0	0	87,110
1977	113,026	0	0	113,026
1978	1,362,306	0	0	1,362,306
1979	1,313,650	102,320	1,101	1,417,071
1980	2,011,736	0	0	2,011,736
1981	5,566,463	42,296	0	5,608,759
1982	4,546,311	779,600	36,034	5,361,945
1983	4,752,148	1,200,978	8,975	5,962,101
1984	5,304,921	647,497	91,736	6,044,154
1985	4,153,877	462,258	16,750	4,632,885
1986	965,095	179,367	10,897	1,155,359
1987	1,450,983	182,706	26,627	1,660,316
1988	2,125,032	179,022	22,634	2,326,688
1989	3,077,937	[a]	11,124	3,089,061[b]
1990	2,879,955	65,806	17,365	2,963,126
1991	1,414,499	80,248	7,412	1,502,159
1992	1,656,793	[a]	5,649	1,662,442
1993	1,369,889	273,811	7,531	1,651,231
1994	948,461	277,639	[a]	1,226,100[b]
1995	527,434	[a]	[a]	527,434[b]

[a] Catch confidential, where less than 3 vessels participate.
[b] Total does not include confidential catch.

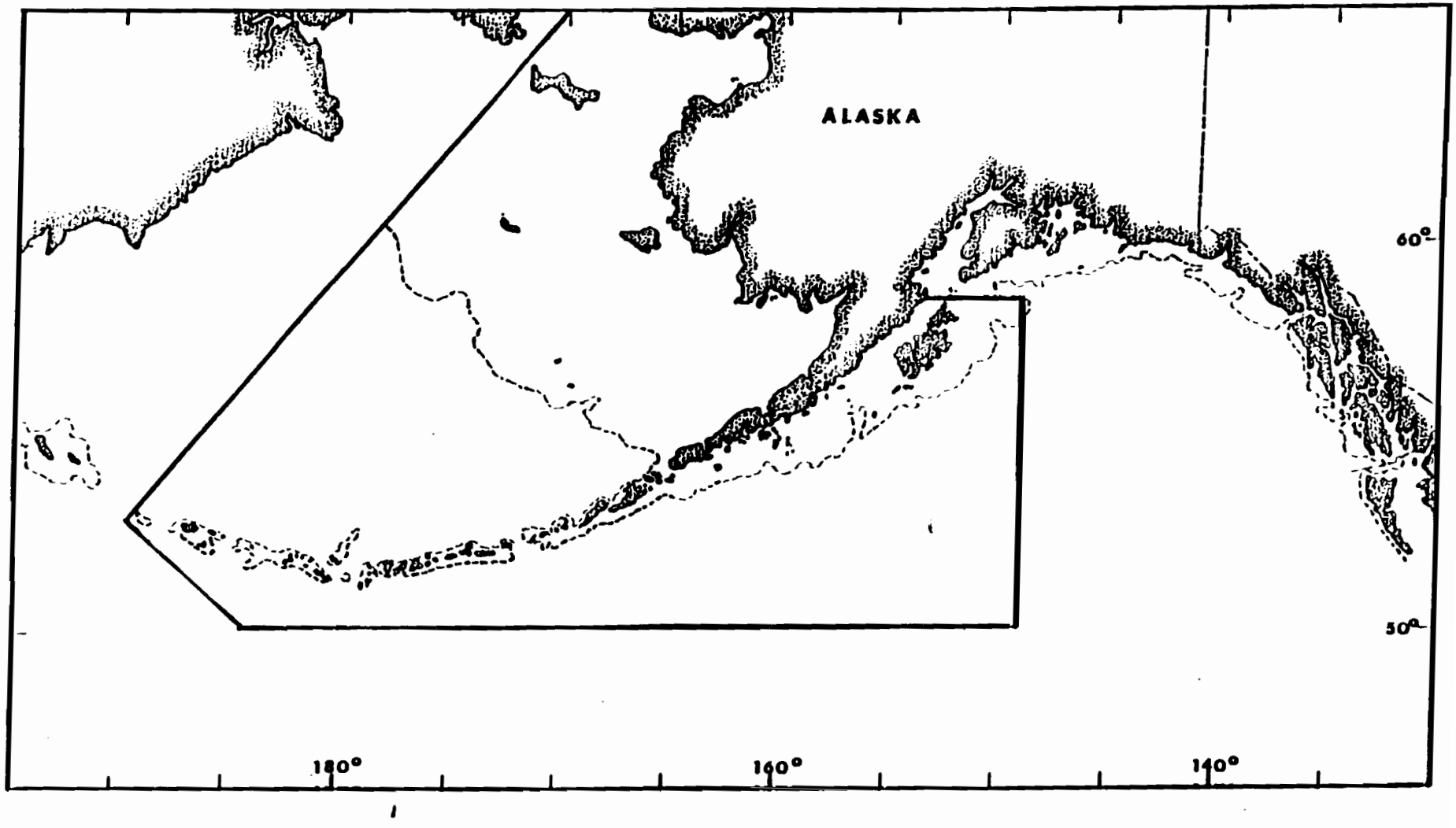

Figure 1-1. **Alaska Department of Fish and Game Westward Region.**

ANNUAL MANAGEMENT REPORT FOR THE

SHELLFISH FISHERIES OF THE KODIAK AREA, 1995

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March 1997

KODIAK AREA

Introduction

The Kodiak shellfish management area includes Pacific Ocean waters south of the latitude of Cape Douglas (58°52' N. lat.) on the Alaska Peninsula, east of the longitude of Cape Kumlik (157°27' W. long.), and west of 148°50' W. longitude. The management unit varies slightly for shrimp, where it extends from the latitude of Cape Douglas to the longitude of Kilokak Rocks on the Alaska Peninsula (156°19'25" W. long.). This report reviews the 1995 shellfish fisheries within the area and provides a synopsis of all landings within the Kodiak area.

Tanner crab, Dungeness crab, sea cucumber and weathervane scallop were the principal commercial shellfish species fished. A small harvest of octopus, sea urchins, and deep water Tanner crab also occurred. Historically, the Kodiak area has supported substantial red king crab and trawl pink shrimp fisheries. Current red king crab population levels are depressed to a level that disallows commercial harvests. Pink shrimp populations are similarly depressed; however, some areas remain open to exploratory shrimp fishing although effort has been minimal.

Catches are reported by fishermen from individual statistical areas (Figure 2-1) and summarized by districts or sections. At the port of Kodiak, 1.4 million pounds of shellfish were landed during 1995, with an exvessel value of shellfish to the port of Kodiak equaled $3.4 million (Table 2-1). This included shellfish harvested from other management areas, principally the Bering Sea, and landed in Kodiak. The single most valuable shellfish species delivered was Tanner crab from the Bering Sea.

A discussion of each shellfishery appears in individual sections of this report. Vessels fishing for Dungeness in the Kodiak area during 1995 ranged in size from less than 30 feet to over 80 feet in keel length (Table 2-2). During 1995 a total of seven emergency orders were issued for the king crab, Tanner crab, scallop and sea cucumber fisheries in the Kodiak management area (Table 2-3). Over 25,000 pots were utilized last year for Dungeness crab fishing (Table 2-4).

TANNER CRAB

The Westward registration area for Tanner *Chionoecetes bairdi* crab encompasses the waters of the Pacific Ocean south of the latitude of Cape Douglas and west of the longitude of Cape Fairfield and all Bering Sea and Pacific Ocean waters east of the U.S./Russian Convention Line of 1867.

Within this registration area, the Tanner crab stocks are managed by districts. The six districts are Kodiak, Chignik, South Peninsula, Eastern Aleutian, Western Aleutian and Bering Sea. Three districts are managed by the shellfish staff stationed at the Kodiak office. The Kodiak District includes the Pacific Ocean waters south of the latitude of Cape Douglas and east of the longitude of Cape Kumlik. Commercial catches are summarized by sections within the Kodiak District (Figure 2-2). The Chignik District includes all Pacific Ocean waters west of the longitude of Cape Kumlik

and east of a line from Kupreanof Point to Castle Rock and east of a line extending 135° from Castle Rock. The South Peninsula District includes the Pacific Ocean waters west of Kupreanof Point and east of the longitude of Scotch Cap Light. The remaining three districts are managed from the Dutch Harbor ADF&G office.

Historic Background

The domestic Tanner crab fishery for Kodiak and waters south of the Alaska Peninsula began in 1967 when less than the 200,000 pounds were landed. As king crab stocks declined in the late 60's interest increased in the Tanner crab fishery. During this period, fishermen were experimenting with crab pots to increase catches of Tanner crab and decrease incidental catch of king crab. This was accomplished by placing wooden slats in the tunnel eye of the pot to reduce the height of the opening to 4 inches or less and not allowing the larger king crab to entering the pot. A newly developed top entry pot had a round fiberglass tunnel opening and was reported to be selective for Tanner crab. While resembling the pot fished by the Japanese in the Bering Sea, this pot was larger and heavier and was not fished with a groundline. A hinged base allows crab to be dropped directly into vessel live tanks.

Considering the abundance of Tanner crab and availability of fishing gear, the commercial fishery was slow to develop. Four factors attributed to this slow development:

1. Relatively low consumer acceptance of Tanner crab;
2. competition on the U.S. market from imported Tanner crab meat;
3. a black encrustment on crab shell now known as black mat syndrome;
4. uneconomical extraction of meat from the shell. Extraction of meat from Tanner crab legs using equipment and methods designed for the larger king crab required a high amount of labor per yield. Shell fragments in shoulder meat required considerable hand labor for removal.

By the 1972/73 season market conditions had improved and Tanner crab had established itself as a dominant winter and spring fishery. In 1973 the department initiated an experimental survey program which used king crab pots as the means of capture. Although the program was designed to assess red king crab populations, Tanner crab work was included due to the fact that they would readily enter king crab pots. The primary goals of these surveys were to estimate the annual relative abundance of crab and predict recruitment trends two to four years in advance of crab attaining commercial size. These estimates would allow the department to establish annual harvest levels.

During 1974 and 1975 the Alaska Board of Fisheries (BOF) set the first harvest levels on Tanner crab of 35 to 55 million pounds for Kodiak, Chignik and South Peninsula. Also in 1975, the Board adopted an April 30th closure to protect crab at the onset of mating. In 1976 the Board established a 5½ inch minimum size limit. This would allow males at least one full breeding season before becoming available for commercial harvest. The commercial fishery peaked during the 1977/78 season when over 33 million pounds were harvested from the Kodiak District (Table 2-5). In 1978 the Federal Government entered into joint management responsibilities with the State of Alaska on the domestic Tanner crab fishery.

Beginning December 6, 1978, the Tanner crab fishery in the Exclusive Economic Zone off Alaska was managed under a Fishery Management Plan (FMP). The commercial catch began to decline in the late 70's and early 80's. In 1980 the BOF adopted into regulation a 250 pot limit for Kodiak, as the Board was attempting to reduce effort in the fishery. ADF&G began to develop alternative methods of assessing Tanner crab populations. Nine years of pot surveys had been completed by 1980.

It was evident from catch variations in areas between surveys that numbers of crab captured were not necessarily comparable. More importantly, small Tanner crabs ($\leq$ 114mm CW) did not enter pots in predictable numbers from survey to survey; thus, little could be determined regarding future recruitment trends. Due to problems in acquiring data on Tanner crab necessary to meet the management objectives from the pot survey, interest was generated in the use of trawls to survey the Tanner crab resource in the Gulf of Alaska as has been done by the National Marine Fisheries Service in the Bering Sea. An experimental program to test this possibility began in 1980. This trawl survey was done in conjunction with the traditional pot survey for red king crabs.

The demand for Tanner crab increased as the price per pound of live crab went from 65 cents per pound to $1.65 per pound. Vessel participation increased as the Tanner crab fishery became very profitable. In 1983, the BOF adopted regulations to designate the South Peninsula and Chignik District as a super-exclusive area. This meant that vessels fishing this area for Tanner crab could not fish Tanner crab elsewhere in the state for that registration year. Additionally, the Board reduced the pot limit in the Kodiak District from 250 pots to 200 pots per vessel.

On February 8th, 1984 a federal judge issued a restraining order restricting the State of Alaska from enforcing the super-exclusive areas in the Chignik and South Peninsula Districts and the 200 pot limit in Kodiak outside of three miles. In order to make state and federal regulations consistent, on February 9 the BOF issued an emergency regulation rescinding the pot limit for Kodiak and super-exclusive registration for Chignik and South Peninsula.

The joint Fishery Management Plan (FMP) was still in effect although there was considerable confusion over the enforcement and effective dates of regulations. The FMP was amended nine times in six years. To achieve conservation and management objectives and to effectively coordinate management with the State, the FMP adopted many of the management measures employed by the State. However, the FMP did not provide for management based on the best available scientific information or provide for timely coordination of management with the State. At its March 1986 meeting, the North Pacific Fishery Management Council (NPFMC) voted to suspend the implementation of regulations for the Tanner crab FMP. The FMP was repealed at the request of the Council, effective April 1987. Once again, the State of Alaska had sole responsibility for the Tanner crab fishery in the Gulf of Alaska.

In 1990 the BOF adopted a new pot limit for Kodiak. This pot limit was a sliding scale limit that decreased with decreasing harvest projections. The limit ranged from 150 to 75 pots per vessel. As crab stocks decreased these pot limits reduced the amount of gear on the fishing grounds and made inseason management less complicated. By the 1993 season a pot limit of 75 pots per vessel regardless of the survey estimate was established.

ADF&G has continued to conduct surveys in these areas and has most recently relied on trawl surveys to assess both king and Tanner crab populations. Legal crab populations are low or depressed in most areas, and recruitment to legal size animals for the next two years is not expected to increase. The Department has observed and recorded conditions of female egg clutches since the existence of the survey with no abnormalities observed. Successful reproduction is further substantiated by the high incidence of one and two year old crab captured in the trawl survey. The Department suspects that fish predation on small crab and competition for food from other groundfish may be a major factor limiting Tanner crab from recruitment. The latest published survey information can be found in the ADF&G Regional Information Report 4K96-3.

1994/95 Fishery

The Department of Fish and Game conducted a summer trawl survey in 1994 to assess both red king and Tanner crab populations. Two hundred tows were successful in sampling crab habitat. Of 7,270 male Tanner crab captured, 998 were legal-sized animals.

The 1994 population of legal-size Tanner crab was estimated to be 1.1 million crabs for the area surveyed. This was a 39% decline from the 1.8 million legal-size crab estimated the previous summer. The population estimate of all sizes and both sexes totaled only 19.3 million crabs. This level was 61% lower than observed during 1993 and was lowest estimate in the eight year history of the trawl survey.

Threshold levels of crab abundance below which fisheries will not be conducted have not been established for Kodiak Tanner crab. However the Department of Fish and Game was extremely concerned with the precipitous decline observed between the 1993 and 1994 surveys and did not allow a commercial fishery for the 1994/95 season (Tables 2-6 and 2-7).

Stock Status

The Department of Fish and Game conducted a summer trawl survey in 1995 to assess both red king and Tanner crab populations. Two hundred and eighteen tows were completed in the Northeast, Eastside, Southeast, Westside and North Mainland Tanner crab districts.

Tanner crab populations nearly doubled, increasing from 19.3 million crabs in 1994 to 35.6 million crabs in 1995. The increase was largely based on a large recruitment even which occurred in the Northeast District. This District was estimated to have a population of 16.7 million animals. These were small crab, however, three to four years from commercial size and it is likely that only a small proportion of them will survive to reach legal size.

Of 9,521 male Tanner crab captured, 723 were legal-sized animals. This resulted in a population estimate of only 655,000 legal crabs, down 40% from the 1994 estimate of 1.1 million (Figure 2-3). Both the number of legals, and the number of crabs one molt from entering the fishery were by far the lowest numbers encountered since the area was first surveyed in 1987.

Threshold levels of crab abundance below which fisheries will not be conducted have not been established for Kodiak Tanner crab. However, the Department of Fish and Game is extremely concerned with the decline in legal size crabs. A commercial fishery was not allowed for the 1995/1996 season. Complete information on trawl survey results are available in the ADF&G regional information report series.

DUNGENESS CRAB

Historic Background

The first commercial Dungeness crab *Cancer magister* landings in the Kodiak District were in 1962 with a catch of 1.9 million pounds (Table 2-8). As a result of favorable market conditions and unexploited stocks, commercial harvest increased to a peak in the four year period from 1967 through 1970 with an average annual harvest of 6.3 million pounds. In 1969 the south end of Kodiak Island was closed from April 1 to June 15 due to the high incidence of female king crab in shallow water. During the early 1970s the fishery declined due to biological factors accompanied sometimes by adverse marketing conditions. In the mid 1970s, weak markets and other more lucrative fisheries kept Dungeness production at a low level. In 1977 the season dates were changed from year around to May 1 through January 1 for the northern portion of the island and June 15 through January 1 for the southern portion (Figure 2-4). During the closure period, crab pots must be removed from the water in an effort to reduce the amount of "derelict" gear. Declines in other fisheries and favorable market conditions during the late 1970s encouraged Dungeness fishing.

The 1981/82 harvest of 5.6 million pounds was the largest harvest for the Kodiak area since 1970. Increased effort resulted in the removal of the major portion of postrecruit animals from the stock. As a result production declined to less than 1 million pounds in 1986 for the first time since 1977. The 1987 fishery experienced a modest increase in recruitment as the catch rose with fewer vessels participating. The production again peaked in 1989 with a large portion of the catch composed of animals newly recruited to the fishery. The average catch per pot in 1989 was the highest since 1981. Production after 1990 declined to the point where 1995 was the smallest harvest since 1977. Effort also declined with 1995 harving the fewest number of vessels participating since 1980.

In 1992, the Department of Environmental Conservation (DEC) discovered the toxin causing paralytic shellfish poisoning (PSP) in the viscera of Dungeness crab. A drop in ex-vessel value was attributed to restrictions by DEC against the sale of whole cooked crabs. This condition persisted through the 1994 season. Live and whole cooked sales were allowed for Kodiak's Mainland Sections after testing revealed low PSP levels in those sections.

1995 Fishery

The regulatory opening of the commercial Dungeness crab fishing season was May 1 for the north end of the district and June 15 for the south end. Both areas remained open until January 1, 1996. A total of 24 vessels made landings harvesting 527,434 pounds of Dungeness crab.

This was the smallest harvest since 1977 when there were less than 3 vessels participating. The number of vessels involved in the 1995 fishery was the lowest since 1980. The season catch was worth $900,000 in ex-vessel value to the fishermen at the average price of $1.72 per pound.

The Southeast Section continued to produce the majority of the harvest (63%) with the 1995 catch at 0.3 million pounds (Table 2-9). The most productive month for the Kodiak Dungeness fishery was July with 27% of the harvest (Table 2-10).

The 1995 season was marked by the continued presence of the toxin causing PSP in the viscera of Dungeness crab. Whole-cook markets were restricted and consumers were warned of the danger of eating crab "butter". The Department of Environmental Conservation continued to use the action levels established in 1993 to regulate Dungeness crab processing in Alaska. When levels of PSP were found to be greater than 70 micrograms per 100 grams, restrictions against whole cooked crabs and live sales were enacted. Most areas around Kodiak were restricted for the entire 1995 season except for the North and South Mainland Sections where PSP levels were found to be lower than 70 micrograms per 100 grams. Some live sales from crabs caught in these areas did occur.

Stock Status

No assessment of Kodiak Dungeness stocks is conducted independent of the commercial fishery. Animals newly recruited to the fishery at the minimum carapace width of 165 mm continue to provide the bulk of the harvest. Crab sampled during the 1995 season were 91.6% recruits with a mean carapace width of 177 mm (Figure 2-5).

KING CRAB

Introduction

This report will cover the commercial king crab fishery for Kodiak and the Alaska Peninsula. The Kodiak Management Area has its northern boundary at the latitude of Cape Douglas and a western boundary at the longitude of Cape Kumlik. Although this discussion will focus on the development of the commercial fishery and regulatory process in the Kodiak Management Area, the management strategies for the Alaska Peninsula and other areas of the state were tailored after those developed for the Kodiak Area.

Historic Background

The Kodiak king crab fishery was pioneered by salmon fishermen. Beginning in 1936 small amounts of red king crab *Paralithodes camtschaticus* were landed, but catches were not officially recorded until 1950. This period in the history of the fishery was exploratory in nature. Fishermen were locating crab, determining abundance and testing gear types. Once the resource was determined abundant enough to support fishermen, markets had to be developed to sell the product.

During the exploratory period, the Bureau of Commercial Fisheries (now National Marine Fisheries Service) was the management agency. Regulations in effect during this period provided for retaining only males with a minimum carapace width (cw) of 5½ inches. In 1949 the size limit was increased to 6½ inches cw.

King crab landings totaled 60,000 pounds in 1950 and the fishery was on its way to becoming a major force in the economy of the Alaska fishermen. From 1950 to 1959 the catch increased from 60,000 to 21 million pounds. During this period, a pot limit of 15 pots for Cook Inlet and area registration were instituted. Also in 1959 pots and ring nets were classified as the only legal gear and a pot limit of 30 pots per vessel was established for Kodiak. As Alaska gained statehood, management authority was transferred to the Alaska Department of Fish and Game.

In 1960 the king crab season was opened year around. Eight processors bought 21 million pounds of king crab at 8 cents per pound from 143 vessels (Table 2-11). The months of January and February accounted for approximately 50 percent of the harvest. In 1961 the Department recommended that more research was needed to determine the stock parameters, breeding habits, age, and size of maturity before more regulations were instituted. In 1963 the size limit was increased to 7 inches based on Kodiak area growth rate studies and to allow male king crab to breed at least one year before being available to the fishery. During the early 60s, the fishery continued to grow until 1964 when the Good Friday earthquake slowed production. Even with the earthquake, the 1964 harvest equaled the 37 million pound harvest of 1963. In 1965 the 30 pot limit was no longer in the regulations. A newshell crab closure went into effect from May 1 to June 30 (Table 2-12). There were 19 shellfish processors in Kodiak paying 10 cents per pound. The Department had completed king crab tagging studies and had defined four major separate stocks of crab. Also in 1965, the staff report to the Fish and Game Board stated that the stocks could not continue to support the large harvests that were occurring. The staff recommended the implementation of a quota system to curtail the harvest; however, no guidance was provided by the staff and no action was taken by the Board.

The development period which began in 1950 peaked in 1966, when 177 vessels delivered 90 million pounds to 32 processors in a ten-month fishing season. Catches in January and February accounted for 40% of the harvest. From 1965 to 1966, vessel effort and average vessel length increased along with a 37% increase in processors. All these factors combined to produce the peak harvest. In 1966 the Department issued the first emergency order to protect newshell and breeding crab and added its first shellfish management position. After examining 12,000 female king crabs, of which only three to five percent were barren, the Department stated that Kodiak king crab stocks were biologically sound. It appeared that a sufficient number of males were present to mate most of the females.

From 1967 to 1970 the king crab fishery expanded to offshore areas in an attempt to maintain the catch levels of previous years. In 1967 the Department started a test fishing program to locate concentrations of prerecruit crab and to estimate future production. The first catch projections predicted a continuing decline in future catches. The 1967/1968 season catch dropped to 43 million pounds, 30 million pounds less than the prior year. Also in 1968, females examined from eight different areas showed that 16% were not carrying eggs.

During the 1968/1969 season the catch dropped to 18 million pounds, and the fishery was closed by emergency order on February 28. The Department determined that in areas with an intensive commercial harvest, there was a higher incidence of barren females. In some areas 25% of the females were barren, with a higher proportion of large females barren than small females. The fishery was still dependent on a weak recruit class.

In July 1970, the Alaska Board of Fish and Game instituted a pot limit of 60 pots per vessel and established a catch quota system. The Department was directed to institute surveys for abundance estimates. The goals of the policy were twofold:

1 To develop and establish a stable fishery, with the objective of eliminating fluctuating harvests characteristic of the fishery.

2. To develop and maintain a broad base of various age classes in order to insure breeding success.

ADF&G was to present estimates of abundance to the Board, which set the quotas. Quotas were not to be increased unless the Board was notified two weeks in advance. The quotas set by the Board were intended not only to arrest the decline of the king crab fishery but also to return a degree of economic stability and cost effectiveness. Sometimes these quotas resulted in lower fishing moralities of 20 to 30 percent, resulting in the carry over of large numbers of harvestable crabs in the following years. This stock-pile effect caused extremely short, fast-paced seasons. Many areas that had been fished later in the year were left unharvested. In 1971 the Board increased the pot limit to 75 pots per vessel. By 1972 the decline had been reversed and harvests started increasing. The 1973 fishery lasted 10 days under a fixed quota system and the Southern District was reopened for an additional eight day fishery.

In 1974 the Board adopted an 8 inch minimum size limit for a second season, as proposed by the Kodiak Advisory Committee. The purpose of the 8 inch season was to provide a harvest opportunity later in the season for areas that had produced larger crab but had not been fished in recent years. Also, the harvests during the 7 inch season were composed of a larger percentage of postrecruit crab because of the restrictive quotas. It was believed that many of the crab that were not caught during the 7 inch season would be lost through natural mortality. Since it was indicated that an increase in harvest could be made, the Board took a cautious approach and decided to increase exploitation on the older postrecruit crab. The Board also adopted a flexible system of harvest guidelines rather than fixed quotas. The Board directed the Department to continue to manage the fishery using a multi-age-class management strategy based on analysis of crab stocks.

The harvest guideline system provided a more liberal approach to the harvest strategy. During the 1975/76 fishery the Department tried to maximize the harvest within each district by dividing districts into schools and closing each school when a 33% fishing mortality was reached (based on in-season tag recoveries).

In 1976 the Board adopted a fixed opening date of December 1 for the 8 inch season. The December 1 opening date provided an opportunity for all size vessels to participate in the second season. The additional season allowed a second opportunity to fish, provided an extra stimulus to the local economy, and became an important economic opportunity for a large portion of the feet.

In 1978 the Board lowered the minimum size limit of the second season from 8 inches to 7½ inches. The Department proposed the change because of the large amount of postrecruit crab available between 7½ and 8 inches that year. The 1978/79 second season recorded a harvest of 1.7 million pounds, similar to the 1.8 million pounds landed in previous years. The lowered size limit increased recruit harvest during the second season from less than one percent under an 8 inch size limit to 15 percent the first year it was in effect. In 1979 the Board of Fisheries increased the pot limit to 100 pots per vessel. The Board adopted a management plan for Kodiak in 1981. The plan's direction was threefold:

1. individual stocks of crabs are to be managed as a single unit, and small closures that leave a portion of a stock open should be avoided;
2. utilization of stocks should be based on overall stock size while considering recruit and postrecruit population levels;
3. a second season for 7½-inch crab will be provided for with an opening between November 15 and December 15.

Also in 1981 the Board increased the pot limit to 150 pots per vessel. The 1981/82 season harvest was the highest of the previous 14 years at 24.2 million pounds. The 1982/83 season harvest declined to 8.7 million pounds, the lowest in 24 years. However, the value of the fishery was the second highest, worth $32.7 million. The effort level for this fishery is also the highest on record with 309 vessels participating.

In 1983 the traditional red king crab fishery was not opened by the Department of Fish and Game due to poor stock condition. This was a result of poor recruitment to legal-sized animals for the previous two years combined with continued low recruitment forecast for the next three years. The population of adult male crab was the lowest recorded in 13 years of annual population assessments. The department established threshold levels of legal males needed prior to considering any further fishery. The threshold of 10.3 million pounds of legal crabs was nearly twofold the 5.5 million pound estimate of the 1983 survey. Additionally in 1983 the Alaska Board of Fisheries lowered the pot limit to 100 pots per vessel.

In 1984 and 1985 the estimate of legal males on the pot survey remained below the 10.3 million pound threshold level established for Kodiak Island. However, in 1985 the estimate of legal males in the Southwest District was 4.9 million pounds. This was above the threshold value of 3.4 million pounds of legal crab established for the district. The department proposed a 450,000 harvest and presented this proposal to the Kodiak Advisory Committee (KAC). After review of

both department and industry views, the KAC voted unanimously to oppose a fishery in the Southwest District. Their concerns were that a small area open with a large effort level would be destructive to the reproductive potential of the stock. The Commissioner of Fish and Game acknowledged the KAC concerns, and the Kodiak king crab fishery was closed during 1985.

From 1986 the fishery again remained closed as the estimate of legal males was below threshold values. The department revised the management plan from a threshold of legal males needed for a fishery to a number of fertilized females needed to maintain maximum reproductive potential of the stocks when populations are depressed. This threshold value for the Kodiak Management Area is 5.1 million fertilized female red king crab.

In 1987 a trawl survey was conducted throughout the management area for the first time to assess both red king and Tanner crab stocks. Previous ADF&G trawl surveys had been limited to Tanner crab assessment in the Shelikof and portions of the Northeast and Eastside Sections of Kodiak Island. Offshore areas of Chignik and Pavlof Bay in the South Peninsula had also been surveyed. This trawl survey estimated a population of 310,000 adult female red king crab around Kodiak of which 47% were not carrying egg clutches. Additionally the estimate of legal males was 177,000 crabs, the lowest estimate in the history of the survey. The 1987 survey results indicated a continuation of the decline in red king crab abundance that had been noted the past five years and the commercial fishery again remained closed.

From 1988 to 1995, the department conducted trawl surveys to assess king and Tanner crab populations with the study areas expanded to encompass the Alaska Peninsula and Western Aleutian Management Areas. Population estimates were derived for the main commercial fishing districts by sex and size categories. The Kodiak Management Area continued to remain closed because the abundance estimates of females was well below threshold levels. Complete information on the Westward Region trawl survey catches can be obtained from the department in a series of Regional Information Reports.

The pot limit for commercial king crab fishing in the Kodiak area was reduced in 1993. A sliding scale of 25-75 pots per vessel was selected based on the projected harvest guideline. Although a fishery had not occurred in the prior 10 years, this public proposal was aimed at reducing effort when the fishery did reopen.

Stock Status

The Kodiak red king crab population remains at historically low levels, and fishing seasons for this species have remained closed since 1983. During the 1995 Kodiak trawl survey the department sampled crab habitat with 218 hauls. The red king crab population was estimated to be 27,000 animals, of which only 9300 were legal-sized animals. This population level is less than 2% of the levels seen in the early 1980's. The mature red king crab female population was estimated to be 13,100 animals. Fifty-five percent of the mature female crab sampled had an estimated oviparity of 80% or greater. Nearshore habitat was not well sampled due to survey design and conflicts with commercial Dungeness crab pots so population estimates should be viewed cautiously, especially in regard to smaller animals.

Brown king crab, Lithodes aquespina

Interest in harvesting brown king crab grew with the collapse of the red king crab stocks. Although brown kings were occasionally landed with red king crab in prior years, the first recorded landings occurred in 1983. In that year, 12 vessels explored around the island finding limited resources. The catch totaled 111,398 pounds from 36 landings (Table 2-13). The largest harvest from this fishery was 146,478 pounds taken in 1986. The minimum size for brown king crab in Kodiak was reduced by the Alaska Board of Fisheries from 7 inch carapace width to 6 1/2 inches in 1985.

Since 1988, there has been either just 1 or 2 boats with confidential landings or no activity at all. A small confidential harvest occurred in 1995 with two vessels making landings.

SHRIMP

Trawl Fishery Historic Background

The Kodiak shrimp fishery began in 1958 with a harvest of 31,886 pounds. The fishery grew rapidly to an annual catch of 10 to 12 million pounds in the early 1960s. The fishery slowed when shore plants and the fishing fleet were badly damaged by the 1964 earthquake and tidal wave, but then grew rapidly to a peak of 82.2 million pounds in 1971 (Table 2-14). As Kodiak shrimp catches declined in the 1970s, much of the vessel effort shifted into the Chignik and South Peninsula areas until those areas demonstrated similar declines in the late 1970s.

Vessels that have participated in the Kodiak fishery are of three types: vessels that fish with beam trawls, vessels that fish a single otter trawl, and vessels that fish two otter trawls simultaneously. The single otter trawl vessels have participated in the fishery since 1958. Beam trawl vessels started fishing in 1970 (F/V *Taurus*, F/V *Sue*). The double rigged otter trawl vessels first fished Kodiak in 1969 (F/V *Pacific Challenger*), followed by more efficient stern ramp double otter trawls in 1970 (F/V *Dawn*). These double rigged vessels increased efficiency. Double rigged vessels have hold capacities of up to 200,000 pounds, while single rigged otter trawls are typically hold less than 120,000 pounds. Beam trawlers typically pack less than 20,000 pounds. The efficiency and ability to deliver larger loads enabled the double rigged otter trawlers to range over a much larger area than was customary. Along with the other innovations to the fishery, double rigged vessels also introduced Gulf of Mexico style nets, which were more efficient than the West Coast manufactured nets used previously. These new style nets were quickly adopted by the single rigged vessels. Gear continued to change as new materials and ideas were tried: wider nets, higher opening nets, different mesh size, longer nets and roller gear. Along with the increase in gear technology in the 1970s, electronics became more sophisticated and reliable as a tool to locate shrimp.

No regulatory measures were promulgated in the Kodiak shrimp fishery until 1970 when the Alaska Board of Fish and Game (later known as Alaska Board of Fisheries) adopted an egg hatch closure during March and April for some bays and nearshore areas. In 1971 a quarterly quota system was adopted to provide harvest throughout the year while not allowing unrestricted harvest. The allowable harvest for various fishing sections was divided into four periods. In 1972 the Board

adopted a total egg hatch closure for the Kodiak Area during March and April. In the late 1970s, the quarterly quota system was reduced to a single opening for certain areas and staggered opening dates for many of the fishing sections, while others retained two fishing periods - fall and winter (September 1 - December 31 and January 1 - February 28). Beginning in 1979, the opening date was changed from May 1 to June 1. Most of the adjustments to season dates was due to industry's desire to spread harvest out over a longer time period while trying to prevent conflicts with vessels and processing in other fisheries. Also, during the late 1970s, stocks in some areas were not large enough to support fisheries, and these areas were opened and closed by emergency order.

The Department of Fish and Game conducted a voluntary logbook program beginning in 1967. This database, plus trawl surveys conducted by the department since the early 1970s, provided means for establishing harvest levels by the late 1970s. This database and harvest adjustment system was quite flexible during its developing stage. By 1981 industry demanded this flexible management scheme be defined. This led to the *Westward Region Shrimp Management Plan* which was presented to the Board of Fisheries in April 1982. This plan was reviewed by the Board, and amendments in certain areas were made at the Board's request. The objectives of this management plan are to maintain shrimp stocks at a level termed "representative biomass index" (RBI) determined by survey trawls, while allowing a fishery during rebuilding periods. Exploitation rates increase as the population level approaches or exceeds RBI and decline if the survey index is less than the RBI level. Additionally, a minimum level at which any harvest would occur was established. This "minimum acceptable biomass index" (MABI) is 40 percent of the representative index level.

Concurrent with adoption of the *Westward Region Shrimp Management Plan*, the BOF also enacted an alternative management strategy as an "economic alternative" known as the *Mainland Shrimp Management Plan*. This alternative management strategy allowed shrimp fishing in some bays on the Alaska Peninsula irregardless of survey results. Specifics can be found in the commercial shellfish regulations under 5 AAC 31.530.

Since both of these management plans have been in effect, stocks have continued to decline. Under the *Westward Region Shrimp Management Plan* few areas have been open the past eight years. The Mainland fishery, while open, has steadily declined in both production and area fished.

1994/95 Trawl Fishery

The trawl fishery opened in the Kodiak District on June 15, 1994 and closed February 28, 1995. Areas specified in the *Mainland Shrimp Management Plan*, undefined areas, and North Afognak were open to shrimp trawl fishing (Figure 2-6). During the 1994/95 season there were no vessels registered to fish shrimp and no landings occurred.

Stock Status

During 1992 the Department conducted a trawl survey for shrimp in the Westward Region. Population estimates for each section in Kodiak are listed in Table 2-15. All sections remained below the level required by the Westward Region Shrimp Management Plan to warrant an opening.

Stocks in the Kodiak District remain at depressed levels. There appears to be little if any improvement in stock conditions overall. Areas under the *Mainland Shrimp Management Plan*, while remaining open, continue to have little or no production. The next shrimp survey is planned for September 1995.

Pot Shrimp Fishery

Currently, no assessment of stock size or condition is conducted by the Department other than information from the fleet. A small harvest (confidential) taken by one vessel occurred during 1994 (Table 2-16).

KODIAK SCALLOP FISHERY

Introduction

The Kodiak Registration Area includes the waters of the Pacific Ocean south of the latitude of Cape Douglas and east of the longitude of Cape Kumlik.

The Kodiak scallop fishery began in 1967 when 2 vessels explored the east and northeast parts of Kodiak Island, harvesting 778 pounds of scallop meats. During 1968, the first full year of fishing, 8 vessels harvested 734,084 pounds of scallop meats in the Kodiak Registration Area. The Kodiak scallop fishery peaked in 1970 when 7 vessels landed over 1.4 million pounds of scallop meats. Catches declined in the 1970's to no harvest in 1977 and 1978. Since 1980 landings have fluctuated from a low of 46,971 pounds to a high of 689,402 pounds of scallop meats. (Table 2-17).

In the early 1970's the department closed the south end of Kodiak Island and Marmot Bay to scallop fishing due to the observed high bycatch of king crab in these areas. The regulatory season ending date was also changed to March 31 to protect molting king crab. In 1990, the Board of Fisheries closed areas to scallop fishing that had previously been closed to non-pelagic trawls in order to protect depressed king and Tanner crab populations. This included Kodiak's Westside bays. (Figure 2-7)

In May of 1993 the commissioner declared the Alaska scallop fishery a "High Impact Emerging Fishery". An interim scallop management plan including 100% observer coverage and crab bycatch caps was implemented.

In March 1994 the Board of Fisheries reviewed and adopted the ADF&G scallop management plan. A regulatory year of July 1 to February 15 was set to avoid scallop spawning and king and Tanner crab molting periods. The Alaska Board of Fisheries adopted the same percentages for bycatch of crabs in the scallop fishery as were already established for the groundfish fisheries around Kodiak. Bycatch caps are based on crab population estimates derived from trawl surveys. Bycatch rates of one percent (1%) and one half of one percent (.5%) of the total population estimate of crabs are used to calculate the number of crabs allowed as bycatch. A one percent bycatch cap was applied in areas where a directed commercial crab fishery was open. If an area did not open to a directed commercial crab fishery a cap of one half of one percent was applied.

The 1995 Fishery

The 1994/95 scallop fishing season was open from July 1, 1994 to February 15, 1995. No effort occurred during the January 1 - February 15 time period, however, as vessels concentrated on higher production areas elsewhere in Alaska.

Effective February 23, 1995 an emergency rule was implemented by National Marine Fisheries Service to close the exclusive economic zone (EEZ) off Alaska to fishing for scallop. This emergency rule was in response to unanticipated fishing for scallops by a vessel outside the jurisdiction of Alaska. This emergency rule was extended until August 29, 1995 when a Fishery Management Plan (FMP) was implemented which closed federal waters to scallop fishing for an additional year. The closure of federal waters was necessary to prevent overfishing of scallop stocks while one amendment to the FMP was prepared that would allow a controlled harvest.

The Department of Fish and Game announced on May 10, 1995 that the Kodiak District would not open to scallop fishing during the 1995/96 season. With the federal scallop closure effective in the EEZ until at least 1996 there remained limited state waters available for scallop fishing. Areas were primarily the Alaska Peninsula bays along the westside of Shelikof Strait and near Sutivik Island. The area had averaged approximately 10% of the Kodiak scallop harvest for the past 5 years. This percentage would have yielded a guideline harvest range of zero to 40,000 thousand pounds of shucked scallop meats.

Crab resources in the Kodiak Area are severely depressed. The commercial Tanner crab fishery in Kodiak failed to open in 1995 for the first time in 28 years. The king crab fishery has not opened since 1983. Crab bycatch caps for the scallop fishery in Kodiak are calculated based on crab survey population estimates. Considering the ADF&G crab surveys stations within state waters open to scallop fishing and an allowable crab bycatch of ½ of 1%, the cap would have been 1,000 Tanner crabs or 75 king crabs.

Bycatch of crab during the recently observed scallop fishery had ranged from one crab to over 130 crabs captured per tow. Uncertainly in catch rates hampers the departments ability to manage this fishery to either the king or Tanner crab bycatch limit. With limited fishing grounds available, there would be little opportunity for vessel operators to move around and find areas with lower bycatch rates as they had in the past. Considering the potential damage to crab resources, the scallop fishery did not open in the state waters of the Kodiak area.

Stock Status

The ADF&G does not conduct assessment survey for weathervane scallops in the Kodiak registration area. However, the newly created scallop observer program will provide information necessary to assess the scallop resource. Currently the 1994 scallop observer data is being compiled and fishing locations, scallop shell heights and dredging effort will provide insight of the population structure. The department is currently in the process of aging observer collected scallop shells to determine growth rates and age structure of the scallop population.

SEA CUCUMBERS

Historic Background

Sea cucumbers were not harvested commercially in the Kodiak area until 1991. In 1991 and 1992 small numbers of the red sea cucumber, *Parastichopus californicus,* were taken to test marketability. In spring 1993, several processors recruited divers to commercially pick sea cucumbers in the Kodiak and Chignik areas. The fishery was allowed to develop under the terms of a permit authorized by 5 AAC 38.062. The department specified dive gear as the only legal gear and required dive logs to be submitted with fish tickets. Harvests were monitored to determine abundance and distribution as the department does not have a stock assessment program. As fishing areas around Kodiak achieved a significant catch they were closed to lower the risk of overharvest. Everywhere around the Island was closed by August 5, 1993. Landing weights were recorded as the eviscerated weight, with the 1993 catch totaling 564,516 pounds taken by 50 divers (Table 2-18).

A news release dated February 28, 1994 announced a sea cucumber fishing period for a 1993/94 season from April 1 - 30, 1994. In addition, all areas in the Westward Region would close from May 1 through September 30. This closure period was established to protect aggregated sea cucumber populations during the spawning portion of their life cycle. Diver reports and logbook information indicated that spawning activity takes place from June to August in the Kodiak area. This is similar to the time frame found in Southeast Alaska and elsewhere on the Pacific Coast.

The February news release also described the guideline harvest levels (GHL) that were set for the Kodiak and Chignik Districts. A total of 200,000 pounds was announced for Kodiak with the Chignik GHL set at 50,000 pounds. Management areas for sea cucumbers were based on Tanner crab fishing sections in order to distribute harvest (Figure 2-8). The department examined historic production and fisheries performance to set GHL's for individual sections. Other districts within the Westward Region would remain open for exploration until April 30 without guideline harvest levels established. Registration permit provisions included a weekly fishing period of 5 days and daily logbooks submitted by divers with their fish tickets. There were 80 divers registered to fish during the April opening.

Preseason GHLs were attained or exceeded in the Northeast, Eastside, Southeast, and Westside Sections by the close of the first 5 day fishing period. The Southwest section was allowed to reopen for an additional 3 day period.

Some exploratory effort occurred in the South Peninsula district after production areas closed. Little evidence of marketable quantities of sea cucumbers was found. All remaining areas closed to commercial fishing on April 30 to protect sea cucumbers during the spawning aggregation period.

The Department issued an August 18, 1994 news release that detailed guideline harvest levels for the 1994/95 season. The fishery opened to open on October 1, 1994 with weekly fishing periods of 3 days. Guideline harvest levels for the Kodiak and Chignik Districts totaled 225,000 pounds. Twenty-five divers were registered to fish at the start of the fishery, with most divers fishing in the Southeast Section. The Southeast section closed after the first three day fishing period. The Southwest Section closed on October 17, 1994 while the Eastside Section closed on October 22, 1994. By mid-November inclement weather had stifled any further fishing activity for the year although there were harvest areas left open. The number of active divers had dwindled to about six and they shifted into sea urchin production. The harvest in 1994 with the spring and fall fisheries combined totaled 413, 576 pounds taken by 86 divers.

1995/96 Fishery

The 1995/96 sea cucumber fishing season opened on October 1, 1995. Guideline harvest levels for the Kodiak and Chignik Districts totaled 160,000 pounds. Three day weekly fishing periods were described to allow the department the opportunity to assess is season fishery performance.

Most of the effort concentrated in the Eastside Section during the 1st fishing period. That section closed after 4 days of fishing with a harvest of 37,568 pounds taken by 13 divers (Table 2-19). Following the closure in the eastside section activity shifted to the Southeast, Southwest and Westside sections. Those areas remained open for 6, 9 and 10 days of fishing respectively. The Westside sections was closed after October 22, 1995. The harvest in all three sections had met or exceeded the preseason GHL. Although areas were still open to fish along the Alaska Peninsula activity in the fishery ceased. Fishermen expectations of return were marginal compared to the expense and trouble of fishing outlying areas. These areas will remain open through April 30, 1996. The total harvest to date (February 1, 1996) of sea cucumbers has been 138,721 pounds taken by 19 divers at the ex-vessel value of $1.25 per pound.

SEA URCHINS

Historic Background

The green urchin *Strongylocentrotus droebachiensis* was not harvested commercially in the Kodiak Area until 1980 when a small amount was taken to test marketability. There was little further

interest in urchins until 1985 when a small harvest occurred. In 1986 the harvest increased with more divers participating (Table 2-20).

Sea urchins are harvested for their roe content and seem to be prime for harvest in the Kodiak area between October and December. However, it appears some urchin beds have commercial quality roe as late as mid-February. All urchins are harvested by the use of scuba and hookah diving gear.

In interviewing buyers of the raw product, there appears to be a variation in the quality of the product. Taste, texture, and color of green urchin roe appears to vary with water depth, diet and freshwater influence. Urchin size has an effect on quality and marketability of roe. Kodiak buyers were encouraging divers not to retain urchins less than 2" in test (exoskeleton) diameter.

All urchins harvested in the Kodiak area were placed in shipping boxes live and air freighted to Japan via Anchorage. Roe was then extracted and prepared for market.

1995 Fishery

Interest in harvesting sea urchins waned during 1995. Eight (8) divers participated landing 38,437 pounds. There was little activity in the fishery until late November and December. The dive fishermen targeted sea cucumbers prior to that time. Some fishing continued through January and February 1996. All fishermen registrations expired February 15, 1996. The department did not renew those registrations due to the onset of the spawning cycle for sea urchins. The next open harvest period will be October 1, 1996.

Stock Status

No assessment work is currently being done on sea urchins in the Kodiak area. Recent fishery information indicates the resource biomass is not large when compared to other areas on the Pacific Coast.

OCTOPUS

The giant Pacific octopus *Octopus dofleini* exists throughout Alaskan waters and is quite abundant in the Kodiak District. Most recorded catches have been incidental to other commercial fishing activities such as crabbing and bottom fishing. The harvest increased through the years to a peak of over 19,000 pounds in 1980 (Table 2-21). Reduced catches after 1980 were the result of shortened Tanner crab seasons.

Interest in the fishery has been increasing due to the demand by longline fishermen for bait octopus. The octopus fishery experienced a dramatic increase in 1990. Caught incidentally in the rapidly expanding pot fishing for Pacific cod, the harvest increased to 138,333 pounds in 1993. The harvest during 1994 was reduced to 10,449 pounds primarily due to low market interest by

processors. The harvest increased again in 1995 to 41,134 pounds landed as incidental catch to groundfish fisheries.

Stock Status

Although the octopus is thought to be numerous, no estimate of abundance is available. The Department currently has no directed study concerning octopus.

RAZOR CLAMS

Historic Background

Razor clams *Siliqua sp.* have been harvested in the Kodiak Management Area since the early 1920s (Table 2-22). Though many Kodiak Island beaches were explored with some success, the principal commercial harvest occurred about 70 miles northwest of Kodiak in the Kukak Bay, Hallo Bay, Big River, and Swikshak Beach regions. Digging continued on a somewhat regular basis until the early 1960s when a combination of increasing federal and state regulations in processing the product, poor market conditions, and the 1964 earthquake precipitated a decline in harvests. Commercial harvesting of clams for human consumption has never become re-established and the fishery has been strictly hand-digging for use as bait in the Dungeness crab fishery. The certification program ended in July 1980. In 1990, there were no clam beaches in the Kodiak Area certified as safe for human consumption by the Alaska Department of Environmental Conservation.

Many of the principal harvest areas along the Alaska Peninsula are adjacent to the Katmai National Monument which includes all the land above mean high water from Cape Douglas to Cape Kubugakli. Commercial activity within the monument is restricted by the current policy of the U.S. Park Service which dictates a ban on camping in the monument in support of a business enterprise.

In 1986 the Alaska Board of Fisheries adopted a regulation prohibiting hydraulic mechanical dredges from harvesting clams in the Kodiak Area east of Kilokak Rocks.

Stock Status

The potential for a razor clam harvest in the Kodiak Management Area has been established by historic catch records and studies conducted by the Department. These studies, however, were conducted in the mid 70s and are of little benefit in judging stock status at this time due to environmental changes that have occurred. Based on success by diggers the past few years, it appears the clam populations have drastically declined in the Swikshak - Big River Area, which historically produced a large portion of the razor clam harvest.

1995Fishery

There were no landings of clams from the Kodiak Area during 1995.

Table 2-1. Landings and values of fisheries to the port of Kodiak, 1995

Species	Pounds[a]	Exvessel Value[b]
Bering Sea Crab	625,000	2,200,000
Dungeness	527,434	907,000
Scallops	0	0
Sea Cucumbers	138,721	173,000
Miscellaneous Shellfish[c]	100,891	100,000
Groundfish	164,883,000	49,081,000
Halibut	7,500,000	15,000,000
Salmon[d]	187,389,313	50,500,000
Herring[d]	10,550,000	6,050,000
TOTAL	371,714,359	124,011,000

[a]Represents pounds of product landed at the port of Kodiak including harvests outside the Kodiak management area.
[b]Dollar value to fishermen inseason and does not reflect postseason settlements.
[c]Includes octopus, shrimp and sea urchins.
[d]Represents pounds of product harvested in the Kodiak management area.

Table 2-2. Keel length frequencies of Kodiak District shellfish vessels that made landings during the 1995 Tanner and Dungeness crab fishing season.

Vessel Keel Length (feet)	1995 Dungeness Crab
<20-29	0
30-39	5
40-49	7
50-59	5
60-69	4
70-79	1
80-89	2
90->150	0
VESSELS:	24

Table 2-3. Shellfish emergency orders issued for the Kodiak Management Area, 1995.

Emergency Order	Effective Date	Explanation
Dungeness Crab		
4-S-01-95	January 1, 1995	Closed the Westward Region, including Kodiak, to Dungeness fishing.
Tanner Crab		
4-S-02-95	January 15, 1995	Closed the Kodiak, Chignik and South Peninsula Districts to Tanner crab fishing.
Scallop		
4-S-05-95	July 1, 1995	Closed Kodiak to scallop fishing for the 95/96 season.
King Crab		
4-S-6-95	September 25, 1995	Closed Kodiak to king crab fishing for the 95/95 season.
Sea Cucumber		
4-S-11-95	October 8, 1995	Closed the Eastside Section of Kodiak to sea cucumber fishing.
4-S-12-95	October 13, 1995	Closed the Southeast Section of Kodiak to sea cucumber fishing
4-S-13-95	October 20, 1995	Closed the Southwest and Westside Sections of Kodiak to sea cucumber fishing.

Table 2-4. Vessel and gear effort, by fishery and registration year for the Kodiak management area, 1989/90-1995.

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95
Tanner Crab						Closed
Average pots per vessel	113	70	69	69	68	--
Total vessels	233	137	143	140	129	--
Total pots registered	26,229	9,560	9,883	9,660	8,770	--
	1990	1991	1992	1993	1994	1995
Dungeness Crab						
Average pots per vessel	478	449	439	513	549	461
Total vessels	62	62	46	42	31	24
Total pots registered	29,625	27,825	20,228	21,533	17,007	11,065

Table 2-5. Commercial catch and effort for the Tanner crab *Chionoecetes bairdi*, Kodiak Management District, 1967-1995[a]

Year	Vssls	Lndngs	Number of crabs[a]	Number of lbs.[a]	Pots Lifted	CPUE	Avg. Wt.	Price Per #
1967	-	83	-	110,961	-	-	-	$ .07
1968	-	817	-	2,560,687	-	-	-	.10
1969	85	955	-	6,827,312	72,748	43	-	.11
1969/70	67	833	3,237,244	8,416,782	78,266	42	2.6	.11
1970/71	82	453	2,686,067	6,744,163	60,967	44	2.5	.11
1971/72	46	505	3,878,618	9,475,902	65,907	59	2.4	.13
1972/73	105	1,466	13,609,688	30,699,777	188,158	67	2.3	.17
1973/74	123	1,741	11,857,573	29,820,899	217,523	59	2.5	.20
1974/75	74	471	5,459,940	13,649,966	73,826	83	2.5	.17
1975/76	104	1,168	10,748,958	27,336,909	199,304	64	2.5	.20
1976/77	102	998	7,830,727	20,720,079	164,213	48	2.6	.33
1977/78	148	1,483	12,401,243	33,281,472	251,621	49	2.6	.43
1978/79	218	1,225	10,702,829	29,173,807	275,455	38	2.7	.55
1979/80	211	1,385	6,813,128	18,623,875	282,946	24	2.7	.55
1980/81	188	771	4,398,631	11,748,629	174,351	25	2.7	.65
1981/82	221	950	5,413,467	13,756,159	230,403	24	2.5	1.65
1982/83	348	1,439	7,744,812	18,927,061	377,562	21	2.4	1.25
1983/84	303	1,229	5,891,968	14,478,066	303,764	10	2.5	1.20
1984/85	214	710	4,567,037	12,024,553	176,830	26	2.6	1.50
1985/86	233	601	3,457,930	8,996,151	160,808	21	2.6	1.90
1986/87	189	503	1,830,365	4,833,473	110,963	16	2.6	2.62
1987/88	176	557	1,614,874	3,888,906	101,488	16	2.4	2.40
1988/89	171	567	2,106,320	5,208,999	86,556	24	2.5	3.05
1989/90	233	548	1,435,477	3,456,314	97,333	15	2.4	2.40
1990/91	137	448	764,107	1,917,713	54,110	14	2.5	1.59
1991/92	143	434	982,391	2,400,213	47,384	20	2.4	2.22
1992/93	140	353	518,982	1,318,446	43,528	12	2.5	2.10
1993/94	129	378	510,681	1,252,342	41,527	12	2.5	2.25
1994/95				NO FISHERY				
TOTAL	-	-	130,463,057	341,469,616	3,937,541	-	-	-
AVERAGE	162	827	5,218,522	12,195,343	140,626	31	2.6	-

[a]Data Source: Alaska Department of Fish and Game annual Board of Fish and Game Reports and annual Kodiak Area Management Report.

Table 2-6. History of Kodiak District Tanner crab opening and closing dates, 1977-1995.

Year	Opened	Closed
1977	Jan 1	Apr 30
1978	Jan 1	May 15
1979	Jan 5	May 15
1980	Jan 5	May 15
1981	Jan 22	May 15
1982	Feb 10	Apr 13
1983	Feb 10	Mar 14
1984	Feb 10	Apr 1
1985	Jan 15	Feb 18
1986	Jan 15	May 15
1987	Jan 15	Feb 28
1988	Jan 15	Mar 10
1989	Jan 15	Mar 31
1990	Jan 15	Feb 21
1991	Jan 15	Mar 31
1992	Jan 15	Jan 30
1993	Jan 15	Feb 8
1994	Jan 15	Feb 2
1995	NO FISHERY	

Table 2-7. Tanner crab, *Chionoecetes bairdi*, catch in pounds by fishing section for the Kodiak Management District, 1990/91 - 1994/95.

Section	1990/91	1991/92	1992/93	1993/94	1994/95
Northeast	473,591	381,512	264,913	238,076	Closed
Eastside	756,848	2,018,701	728,191	395,062	Closed
Southeast	450,455	Closed	Closed	Closed	Closed
Southwest	Closed	Closed	325,342	279,077	Closed
Semidi Is.	[a]	Closed	Closed	Closed	Closed
North Mainland	157,072	Closed	Closed	340,127	Closed
South Mainland	0	Closed	Closed	0	Closed
Westside	79,747	Closed	Closed	Closed	Closed
Total	1,917,713	2,400,213	1,318,446	1,252,342	-0-

[a]North Mainland catch includes South Mainland and Semidi Island to protect vessel confidentiality.

Table 2-8. Dungeness crab commercial catch and effort by fishing year for the Kodiak Management District, 1962-1995.

Year	Lndgs	Vssls	Commercial Catch		Pots Lifted	Avg Lbs Per Lndg	CPUE	Avg Price Per Lb	Exvessel Dollars
			No. Crab	No. Pounds					
1962[a]	149	-	-	1,904,567	-	12,782	-	$ .09	171,000
1963	354	-	-	2,487,512	-	7,026	-	.09	224,000
1964	395	29	-	4,254,565	-	10,537	-	.09	375,000
1965	351	25	-	3,311,571	-	9,434	-	.12	397,000
1966	144	12	-	1,416,174	-	7,976	-	.13	149,000
1967	439	18	-	6,663,668	-	15,179	-	.13	866,000
1968	536	43	-	6,829,061	-	12,741	-	.14	956,000
1969	455	29	-	5,834,628	190,967	12,823	12	.16	934,000
1970	318	33	-	5,741,438	249,800	18,005	9	.14	804,000
1971	173	24	515,653	1,445,864	90,913	8,358	6	.18	260,000
1972	316	34	766,960	2,059,536	140,921	6,517	6	.40	824,000
1973	487	42	879,484	2,000,526	251,467	4,108	3	.50	1,000,000
1974	172	23	337,839	750,057	104,062	4,361	3	.47	353,000
1975	154	15	307,272	639,813	76,411	4,154	4	.61	390,000
1976	6	4	38,072	87,110	4,410	14,518	9	.15	13,000
1977[b]				Confidential					
1978	173	20	618,357	1,362,306	93,633	7,875	6	.75	1,022,000
1979	237	28	595,850	1,311,275	137,951	5,543	4	.75	943,000
1980	197	21	968,829	2,011,736	107,261	10,212	9	.45	905,000
1981/82[c]	466	50	2,614,545	5,566,463	295,138	11,945	9	.70	3,897,000
1982/83[d]	991	111	2,004,075	4,546,311	481,542	4,588	4	.75	3,410,000
1983/84	1,079	103	2,044,505	4,752,148	503,464	4,408	4	1.05	4,989,000
1984/85[e]	1,163	106	2,393,974	5,303,052	627,441	4,564	4	1.45	7,689,000
1985[e]	1,243	125	1,791,446	4,160,435	599,291	3,347	3	1.20	4,992,522
1986	577	81	439,738	967,423	199,881	1,667	2	1.15	1,112,500
1987	379	45	747,117	1,450,983	150,067	3,828	5	1.26	1,828,000
1988	363	50	1,064,387	2,125,114	203,217	5,854	5	1.06	2,253,000
1989	359	47	1,428,973	3,077,937	185,242	8,574	8	1.10	3,385,730
1990	519	62	1,294,241	2,937,306	296,168	5,660	4	1.54	4,435,000
1991	732	62	695,470	1,414,499	279,872	1,932	2	1.37	1,938,000
1992	501	46	805,215	1,656,793	218,602	3,306	4	.86	1,425,000
1993	263	42	647,736	1,369,889	180,534	5,209	4	.92	1,260,000
1994	162	31	426,848	948,461	151,888	5,855	3	1.20	1,138,000
1995	106	24	257,677	527,434	107,506	4,976	2	1.72	907,000
Average	410	44		2,667,773	219,415	7,476	4	.68	1,627,333

[a]Season open year round 1962 - 1976

[b]Open May 1 through December 31, 1977 - 1980

[c]Open February 27, 1981 through February 1, 1982

[d]Open May 1, 1982 through February 1, 1983

[e]Open May 1, 1985 through December 31, 1985

Table 2-9. Dungeness crab commercial harvest (in pounds) by fishing section, Kodiak Management District, 1989-1995.

Section	1989	1990	1991	1992	1993	1994	1995
Northeast	113,211	65,703	226,187	201,984	34,080	7,725	4,222
Eastside	193,200	170,081	141,053	270,370	115,421	75,740	101,333
Southeast	2,323,771	2,479,534	805,459	859,492	776,258	637,338	331,609
Southwest	165,401	101,376	50,183	89,342	95,128	34,038	52,804
N Mainland	[b]	18,723	36,831	36,202	68,325	19,987	[c]
S Mainland	0	0	[b]	0	[a]	[d]	0
Westside	282,354[c]	101,889	114,786	199,403	280,677	173,633	37,466
	0	0	0	0	0	0	0
Total	3,077,937	2,937,306	1,414,499	2,937,306	1,369,889	948,461	527,434

[a]North Mainland and South Mainland catches combined to protect vessel confidentiality.
[b]Confidential
[c]North Mainland and Westside Section catches combined to protect vessel confidentiality.
[d]Southwest and South Mainland catches combined to protect vessel confidentiality.

Table 2-10. Kodiak Dungeness crab catch statistics for the Kodiak District, 1995. Average catch per pot unstandardized for soak period and gear type.

STAT AREA	NO. VSSLS	NO. LNDGS	POUNDS HARVESTED	AVG. WT.	CPUE	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
525733	4	9	4,222	2.0	2	385	1,208	1,617	-	-	1,012	-	-
535635	3	3	7,934	2.3	3	-	-	-	4,285	2,136	-	1,513	-
535701	3	10	24,825	2.0	1	3,497	1,010	1,259	5,136	1,729	2,901	9,293	-
535705	4	11	36,554	2.0	3	1,758	5,184	4,513	7,069	9,023	6,282	2,725	-
545601	9	35	258,495	2.1	2		40,626	80,824	61,815	42,555	25,268	7,407	-
[a]	19	58	195,404	2.1	3	4,058	15,353	54,602	47,556	53,392	14,405	6,038	0
TOTAL	24	106	527,434	2.0	2	9,698	63,381	142,815	125,861	108,835	49,868	26,976	0

[a] Stat area totals have been combined to protect vessel confidentiality

Table 2-11. Historic commercial red king crab catch and effort for the Kodiak Registration Area `K', 1960/61-1995/96.

Fishing Year[a]	Vessels	Landings	No. of Crab	No. of Pounds	Pots Lifted	CPUE	Average Wt. Per Crab	Average Price Per. #
1960/61	143	-	2,116,375	21,064,871	-	-	-	$ .085
1961/62	148	-	3,181,554	28,962,900	-	-	-	.95
1962/63	195	-	4,146,143	37,626,703	-	-	-	.10
1963/64	181	-	4,158,988	37,716,223	-	-	-	.10
1964/65	189	-	4,923,309	41,596,518	95,951	51	-	.10
1965/66	175	-	11,061,709	94,431,026	173,083	64	-	.128
1966/67[b]	213	-	8,476,299	73,817,779	223,174	38	-	.11
1967/68	227	3,847	5,147,321	43,448,492	207,392	25	-	.26
1968/69	178	1,839	2,348,950	18,211,485	119,146	20	-	.26
1969/70[c]	136	978	1,606,181	12,200,571	96,841	17	-	.28
1970/71	100	830	1,561,318	11,719,970	119,192	13	-	.30
1971/72	89	507	1,539,157	10,884,152	66,166	23	-	.39
1972/73	88	683	2,029,670	15,479,916	70,806	29	-	.55
1973/74	129	837	1,847,679	14,397,287	77,826	24	-	.45
1974/75	158	1,195	2,910,201	23,582,720	110,297	26	-	.45
1975/76	169	1,569	2,976,909	24,061,651	113,795	26	8.1	.66
1976/77	195	1,165	2,177,956	17,966,846	130,777	17	8.2	1.37
1977/78	179	1,186	1,590,477	13,503,666	145,867	11	8.5	1.34
1978/79	194	1,077	1,464,021	12,021,850	177,261	8	8.2	1.60
1979/80	247	1,346	1,979,394	14,608,900	207,991	9	7.3	.95
1980/81	164	1,175	2,787,199	20,448,654	201,531	14	7.3	1.05
1981/82	246	2,214	3,035,674	24,237,601	388,751	8	8.0	2.00
1982/83	309	1,373	1,011,109	8,729,761	283,795	4	8.6	3.75
1983/84	NO FISHERY - SEASON CLOSED							
1984/85	NO FISHERY - SEASON CLOSED							
1985/86	NO FISHERY - SEASON CLOSED							
1986/87	NO FISHERY - SEASON CLOSED							
1987/88	NO FISHERY - SEASON CLOSED							
1988/89	NO FISHERY - SEASON CLOSED							
1989/90	NO FISHERY - SEASON CLOSED							
1990/91	NO FISHERY - SEASON CLOSED							
1991/92	NO FISHERY - SEASON CLOSED							
1992/93	NO FISHERY - SEASON CLOSED							
1993/94	NO FISHERY - SEASON CLOSED							
1994/95	NO FISHERY - SEASON CLOSED							
1995/96	NO FISHERY - SEASON CLOSED							
AVERAGE[d]	174	1,359	2,963,898	24,834,120	143,813	21	-	-

[a]Fishing year defined as May 1 - April 30.
[b]July 1 - April 30 season established.
[c]August 15-January 15 season established.
[d]Average includes only years with open fishing season.

Table 2-12. Kodiak red king crab harvest composition and seasons, 1960-1995/96.

Season	Open	Closed	Catch Million Pounds	Percent Recruits[a]	Percent Post-Recruits	Size Limit
1960/61	Jul 1	Jun 30	18.9	8	92	6½"
1961/62	Jul 1	Jun 30	29.0	36	64	6½"
1962/63	Jul 1	Jun 30	37.6	26	74	6½"
1963/64	Jul 1	Jun 30	35.0	33	67	7"
1964/65	Jul 1	Jun 30	41.6	48	52	7"
1965/66	Jul 1	Apr 30	94.4	35	65	7"
1966/67	Jul 1	Apr 30	73.8	28	72	7"
1967/68	Jul 1	Apr 30	43.4	27	73	7"
1968/69	Jun 15	Mar 31	18.2	61	39	7"
1969/70	Aug 15	Jan 15	12.2	59	41	7"
1970/71	Aug 15	Jan 15	11.7	38	62	7"
1971/72	Aug 15	Oct 29	10.9	75	25	7"
1972/73	Aug 15	Oct 13	15.5	47	53	7"
1973/74	Aug 15	Oct 25	14.4	49	51	7"
1974/75	Aug 15	Sep 21	20.9	52	48	7"
	Oct 15	Jan 15	2.2	3	97	8"
1975/76	Aug 15	Oct 20	21.6	48	52	7"
	Oct 20	Dec 1	2.5	3	97	8"[b]
1976/77	Sep 1	Oct 16	14.6	33	67	7"
	Dec 1	Jan 15	3.1	.5	99.5	8"
1977/78	Sep 15	Nov 30	11.7	37	63	7"
	Dec 1	Jan 15	1.8	.7	99.3	8"
1978/79	Sep 10	Nov 30	10.3	44	56	7"
	Dec 1	Jan 15	1.7	15	85	7½"
1979/80	Sep 10	Nov 30	13.4	70	30	7"
	Dec 1	Jan 15	1.2	30	70	7½"
1980/81	Sep 15	Nov 30	18.4	69	31	7"
	Dec 1	Jan 15	2.1	22	78	7½"[c]
1981/82	Sep 15	Dec 15	20.3	61	39	7"
	Dec 15	Jan 15	3.9	7	93	7½"
1982/83	Sep 1	Dec 10	7.5	46	54	7"
	Dec 10	Dec 19	1.2	19	81	7½"
1983/84			FISHERY CLOSED			
1984/85[d]			FISHERY CLOSED			
1985/86			FISHERY CLOSED			
1986/87[e]			FISHERY CLOSED			
1987/88			FISHERY CLOSED			
1988/89			FISHERY CLOSED			
1989/90			FISHERY CLOSED			
1990/91			FISHERY CLOSED			
1991/92			FISHERY CLOSED			
1992/93			FISHERY CLOSED			
1993/94			FISHERY CLOSED			
1994/95			FISHERY CLOSED			
1995/96			FISHERY CLOSED			

[a]Recruitment after 1963 based on 7" size limit.

[b]Marmot Bay, Chiniak Bay and Kupreanof Strait did not open for 8" crab.

[c]Uganik Bay, Kupreanof Strait, Marmot Bay, Chiniak Bay, Ugak Bay, South Sitkalidak Strait, Kiliuda Bay and Alitak Bay did not open for 7½" crab.

[d]Harvest of crab by test fishery - 33,743 pounds.

[e]Harvest of crab by test fishery - 13,393 pounds.

Table 2-13. Historic commercial brown king crab *Lithodes aequispina* catch and effort for the Kodiak Registration Area `K', 1983-1995.

Fishing Year	Landings	Vessels	No. of Crabs	No. of Pounds	Pots Lifted	Average Crab Per. Pot	Average Wt. Per Crab	Average Price Per Pound	Exvessel Value (Millions)
1983	36	12	16,349	111,398	8,490	2	6.8	3.00	.3
1984	8	6	3,513	22,066	1,950	2	6.3	2.50	.1
1985	19	4	10,005	63,641	2,693	4	6.4	1.95	.1
1986	31	4	21,862	146,478	5,463	4	6.7	3.00	.4
1987	38	5	9,484	67,191	3,187	3	7.1	3.44	.2
1988					Confidential				
1989					Confidential				
1990	6	3	1,214	7,314	1,090	1	6.02	3.00	.2
1991	0	0	0	0	0				
1992					Confidential				
1993					Confidential				
1994	0	0	0	0	0				
1995					Confidential				

Table 2-14. Historic commercial trawl shrimp catch and effort for the Kodiak District of Westward Statistical Area `J', 1958-1995.

Calendar Year	Fishing Year	Vessels	Landings	Harvest in Pounds	Price
1958		-	-	31,886	$.035
1959		-	-	2,861,900	.035
1960		11	94	3,197,985	.039
1961		12	203	11,083,500	.04
1962		11	204	12,654,027	.04
1963		-	-	10,118,472	.043
1964		6	-	4,339,114	.04
1965		11	320	13,823,061	.04
1966		17	551	24,097,141	.045
1967		23	-	38,267,856	.045
1968		16	-	34,468,713	.04
1969		26	935	41,353,461	.055
1970		18	1,024	62,181,204	.04
1971		49	1,746	82,153,724	.04
1972		63	1,398	58,352,319	.04
1973		50	1,283	70,511,477	.055
	1973/74	63	1,029	56,203,992	.08
	1974/75	75	1,100	58,235,982	.08
	1975/76	58	884	49,086,591	.08
	1976/77	62	762	46,712,083	.10
	1977/78	58	653	26,409,366	.13
	1978/79	50	328	20,506,021	.165
	1979/80	37	242	12,863,536	.225
	1980/81	67	462	27,101,218	.29
	1981/82	55	298	19,112,367	.27
	1982/83	40	224	10,391,207	.27
	1983/84	14	63	2,779,030	.35
	1984/85	13	59	2,942,922	.33
	1985/86	5	26	1,145,980	.20
	1986/87			Confidential	
	1987/88			Confidential	
	1988/89	0	0	0	.00
	1989/90	0	0	0	.00
	1990/91	0	0	0	.00
	1991/92	0	0	0	.00
	1992/93	0	0	0	.00
	1993/94	3	3	1,704	N.A
	1994/95	0	0	0	.00
	1995/96	0	0	0	0
Fishing Year Averages[a]		33	556	25,917,820	$.12

[a]Average calculated from years 1960-1985.

Table 2-15. Shrimp population indices from surveyed Westward Region fishing sections.

FISHING SECTION	AVERAGE LBS/NM	1992 SURVEY INDEX (MILLION OF POUNDS)
Marmot Bay	237	2.84
Chiniak Bay	65	.17
Kiliuda Bay	32	.13
Twoheaded Gully	19	.13
Alitak Bay	2	.02
Uyak Bay	78	.39
Uganik Bay	197	.93
Wide Bay	58	.08
Chignik Bay	162	1.04
Kuiukta Bay	120	.36

Table 2-16. Pot shrimp catch statistics, Kodiak District of Statistical Area 'J', 1969-1996.

Year	Vessels	Landings	Pounds
1969		Confidential	
1970		20	12,302
1971		a	0
1972		Confidential	
1973		Confidential	
1974	6	73	10,336
1975	7	77	12,782
1976		Confidential	
1977	3	26	2,565
1978		Confidential	
1979		Confidential	
1980	4	25	4,700
1981	4	6	2,511
1982	6	18	9,754
1983	12	31	18,686
1984	6	21	4,361
1985		Confidential	
1986		Confidential	
1987			0
1988		Confidential	
1989		Confidential	
1990		Confidential	
1991			0
1992			
1993			0
1994		Confidential	0
1995		0	0

Table 2-17. Historic commercial catch, effort, and value of weathervane scallops Kodiak Management District, 1967 through 1995.

Year	No Vssls	No Lndgs	Commercial Catch (pounds)	Average Landing (pounds)	Average Price/Lb.	Est. Value Ex-Vessel (dollars)
1967[b]	2	6	778	130	.70	545
1968[b]	8	89	734,084	8,248	.85	623,971
1969	11	86	1,012,860	11,777	.85	861,000
1970	7	102	1,417,612	13,898	1.00	1,500,000
1971	5	48	841,211	17,525	1.05	883,000
1972	5	68	1,038,793	15,276	1.15	1,200,000
1973	4	42	935,705	22,279	1.20	1,123,000
1974	3	14	147,945	10,568	1.30	192,000
1975	3	29	294,142	10,143	1.40	412,000
1976	1	6	75,245	12,541	1.59	119,000
1977	0	0	0	0	.00	0
1978	0	0	0	0	.00	0
1979	1	4	24,826	6,206	2.78	69,000
1980[b]	7	33	355,200	10,763	3.60	1,278,720
1981	15	60	424,394	7,073	4.00	1,698,000
1982	8	62	435,645	7,026	3.25	1,416,000
1983	4	24	147,747	6,156	5.00	739,000
1984	7	37	309,502	8,365	4.00	1,238,000
1985	3	10	46,971	4,697	4.00	188,000
1986	5	21	180,600	8,600	4.25	767,550
1987	3	23	253,451	11,020	3.45	874,406
1988	3	21	197,731	9,416	3.68	727,650
1989	5	29	242,557	8,364	3.87	938,696
1990	7	73	689,402	9,444	3.43	2,364,649
1991	5	60	514,412	8,574	3.82	1,965,054
1992	3	43	389,854	9,066	3.96	1,543,822
1993	10	59	374,908	6,354	5.15	1,930,776
1994	11	36	381,850	10,607	5.79	2,210,911
1995	0	0	0	0	0	0

[a]Pounds of shucked scallop meats.

[b]Unshucked deliveries were converted to shucked meats using a 10% conversion factor.

Table 2-18. Historic harvest of sea cucumbers in the Kodiak and Chignik Districts, 1991-1995.

Year	Number of Permits	Number of Landings	Pounds Harvested	Average Price Per Pound
1991		Confidential		
1992		Confidential		
1993	50	487	564,516	93
1994	86	269	413,576	1.20
1995	21	60	145,092	1.25

Table 2-19. Sea cucumber commercial harvest by area, Kodiak and Chignik Districts, 1995.

Area	Pounds
Chignik District Total	6,504[a]
Kodiak District	
Northeast Section	[a]
Eastside Section	37,568
Southeast Section	33,381
Southwest Section	21,904
Westside Section	44,797
North Mainland Section	938

[a]Chignik District and Kodiak Northeast Section harvest combined to retain vessel confidentiality.

Table 2-20. Historic harvest of sea urchins in the Kodiak area, 1980-1995.

Year	No. of Permits	No. of Landings	Pounds Harvested (Live Weight)	Average Price Per/Lb.
1980		Confidential		
1985		Confidential		
1986		Confidential		
1987	12	78	104,139	.69
1988	28	260	190,509	.80
1989	29	81	44,862	.82
1990	25	83	84,004	.84
1991	6	24	29,947	.92
1992		Confidential		
1993		Confidential		
1994		Confidential		
1995	8	50	38,437	1.34

Table 2-21. Commercial catch, effort, and value for octopus in the Kodiak Management Area, 1977-1995.

Year	Number of Vessels	Number of Landings	Commercial Catch (Pounds)	Avg. Price Per Pound	Est. Value Exvessel (dollar)
1977	5	9	1,000	.71	1,136
1978	11	21	3,336	.75	2,502
1979	20	43	6,978	.74	5,164
1980	27	61	19,342	.75	14,506
1981	21	46	5,872	.70	4,110
1982	12	29	3,854	.70	2,697
1983	12	20	3,764	.70	2,634
1984	17	43	6,487	.70	4,341
1985	10	12	4,812	.78	3,753
1986	5	8	643	.70	450
1987	8	15	14,151	1.08	15,300
1988	4	4	1,949	1.08	2,105
1989			Confidential		
1990	31	131	69,607	1.08	80,000
1991	70	342	129,355	1.07	138,410
1992	105	---	132,212	1.07	141,466
1993	58	---	138,333	1.00	138,333
1994	29	---	10,449	.59	6,000
1995	46	320	41,134	.58	24,000

Table 2-22. Historic commercial razor clam catch effort and value for Kodiak Management Area, 1960-1995.

Year	No. of Registered Diggers[a]	No. of Lndgs.	Commercial Catch (Pounds)	Avg. Catch Per Lndg. (Pounds)	Average Price Per #	Est. Price Exvessel (Dollars)
1960	76		420,636		$ .105	44,000
1961	95		381,971		.105	40,000
1962	66		297,516		.105	31,000
1963	39		323,757		.11	35,600
1964	2		0		.00	-
1965	4		20,000		.25	5,000
1966	29		15,429		.38	6,000
1967	9		2,155		.40	900
1968	19		6,384		.40	2,600
1969	5	6	12,029	2,005	.40	4,812
1970	6	32	132,261	4,133	.40	53,000
1971	73	82	190,394	2,322	.30	57,000
1972	95	128	152,116	1,188	.35	53,000
1973	64	140	165,282	1,181	.40	66,000
1974	58	74	198,381	2,681	.50	99,000
1975	18	5	6,188	1,238	.50	3,000
1976	9	0	0	0	.00	-
1977			Confidential			
1978			Confidential			
1979	-	0	0	0	.00	-
1980	-	8	8,006	1,001	.79	6,325
1981	-	5	8,186[b]	1,637	1.00	8,186
1982	-	11	11,608[c]	1,055	1.00	11,608
1983	-	7	7,920	1,131	1.00	7,920
1984	-	21	33,972		1,613	1.00
1985	-	11	16,945[d]	1,540	1.00	16,945
1986	-	4	3,993	998	1.00	3,993
1987	-	-	-	-	-	-
1988	-	-	-	-	-	-
1989	-	-	-	-	-	-
1990	-	-	-	-	-	-
1991	-	-	-	-	-	-
1992	-	-	-	-	-	-
1993	-	-	-	-	-	-
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-

[a]Represents registered diggers not actual diggers - no data available after 1977 due to statewide issuance of Interim Use Permits.

[b]Additional 985 pounds of hardshell clams harvested.

[c]Additional 1,506 pounds of hardshell clams harvested.

[d]Additional 1,496 pounds of hardshell clams harvested.

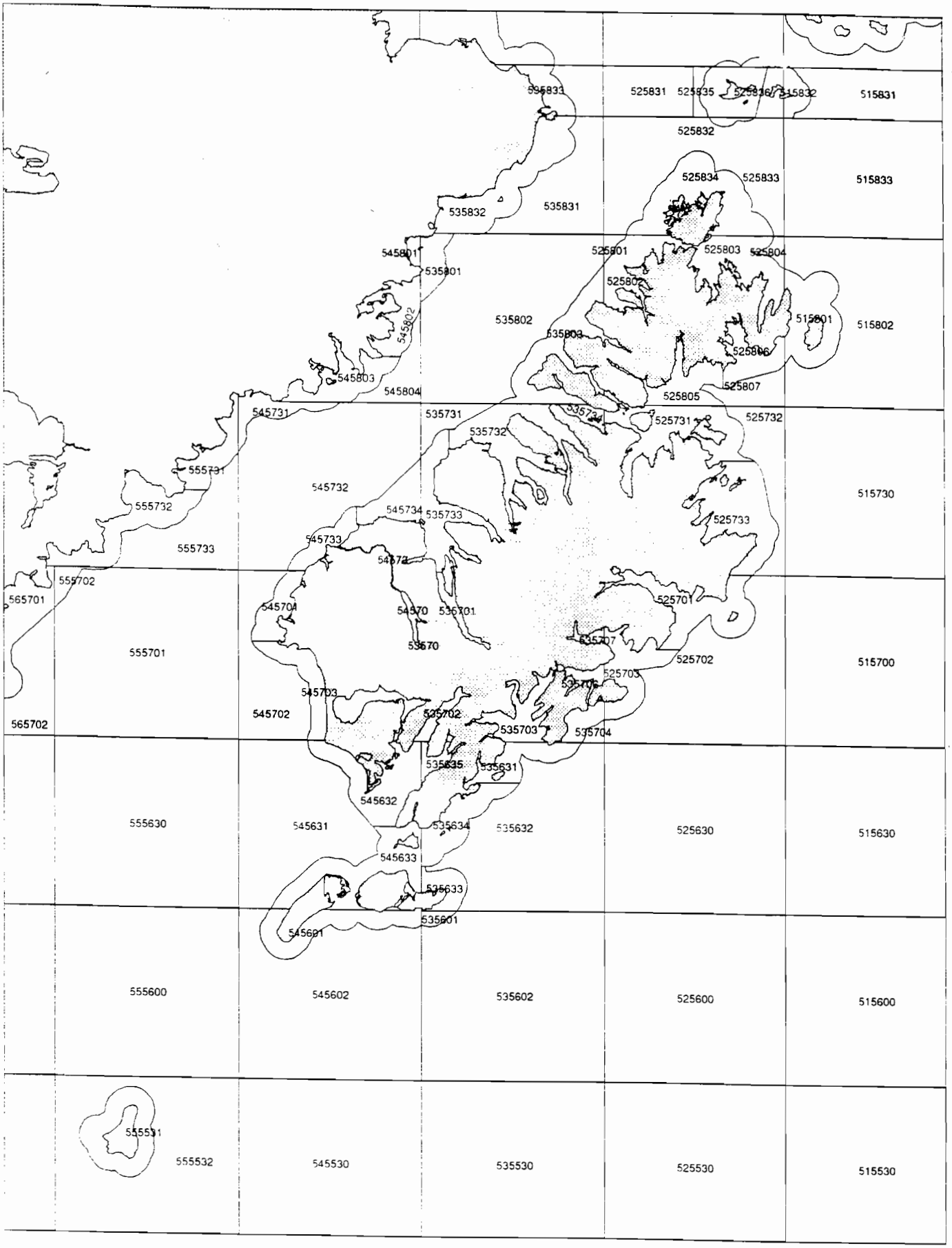

Figure 2 -1. Kodiak Statistical Areas.

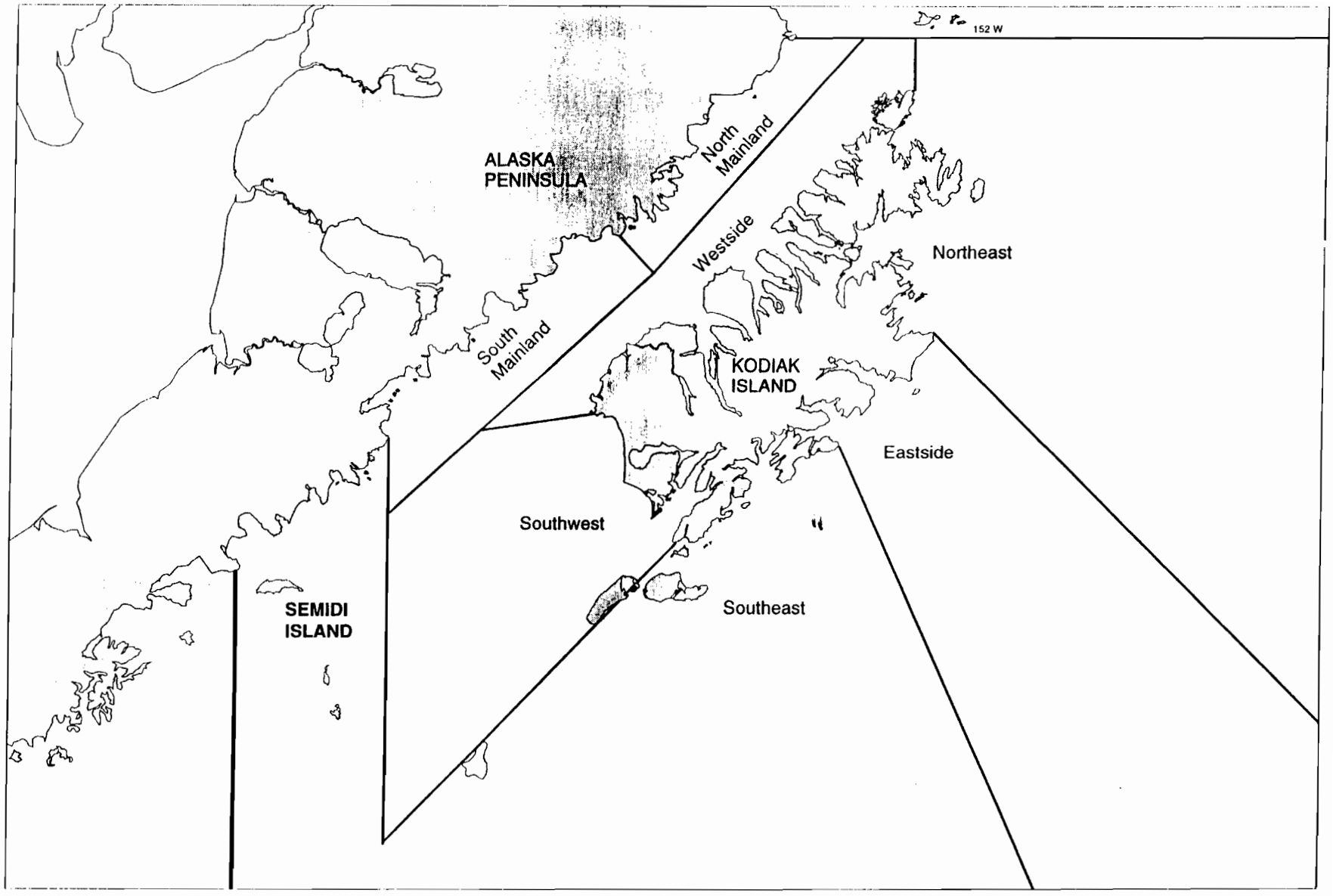

Figure 2-2. Kodiak District Tanner crab fishing sections.

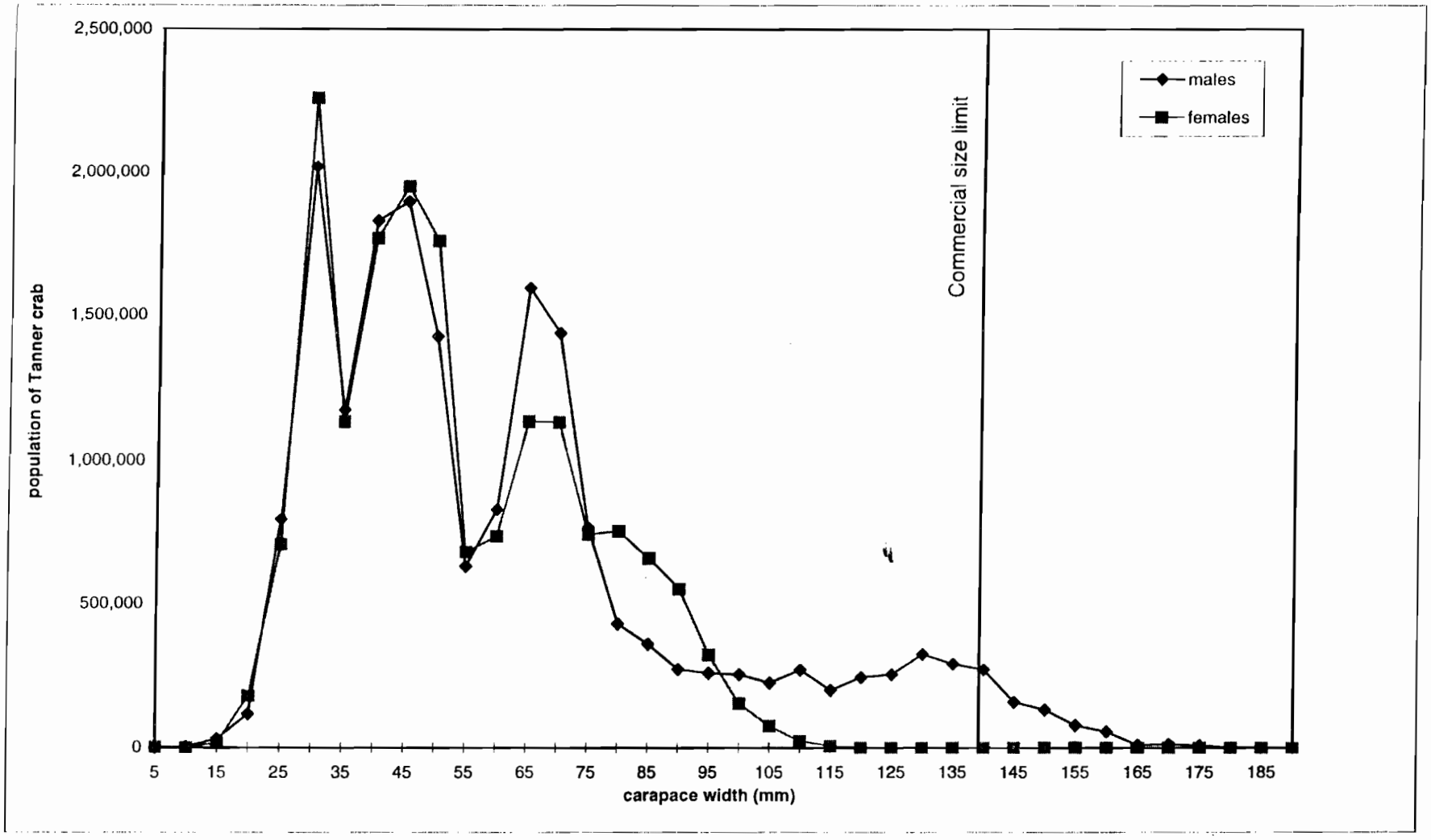

Figure 2-3. Carapace width frequency of Tanner crab captured during the Kodiak trawl survey, 1995.

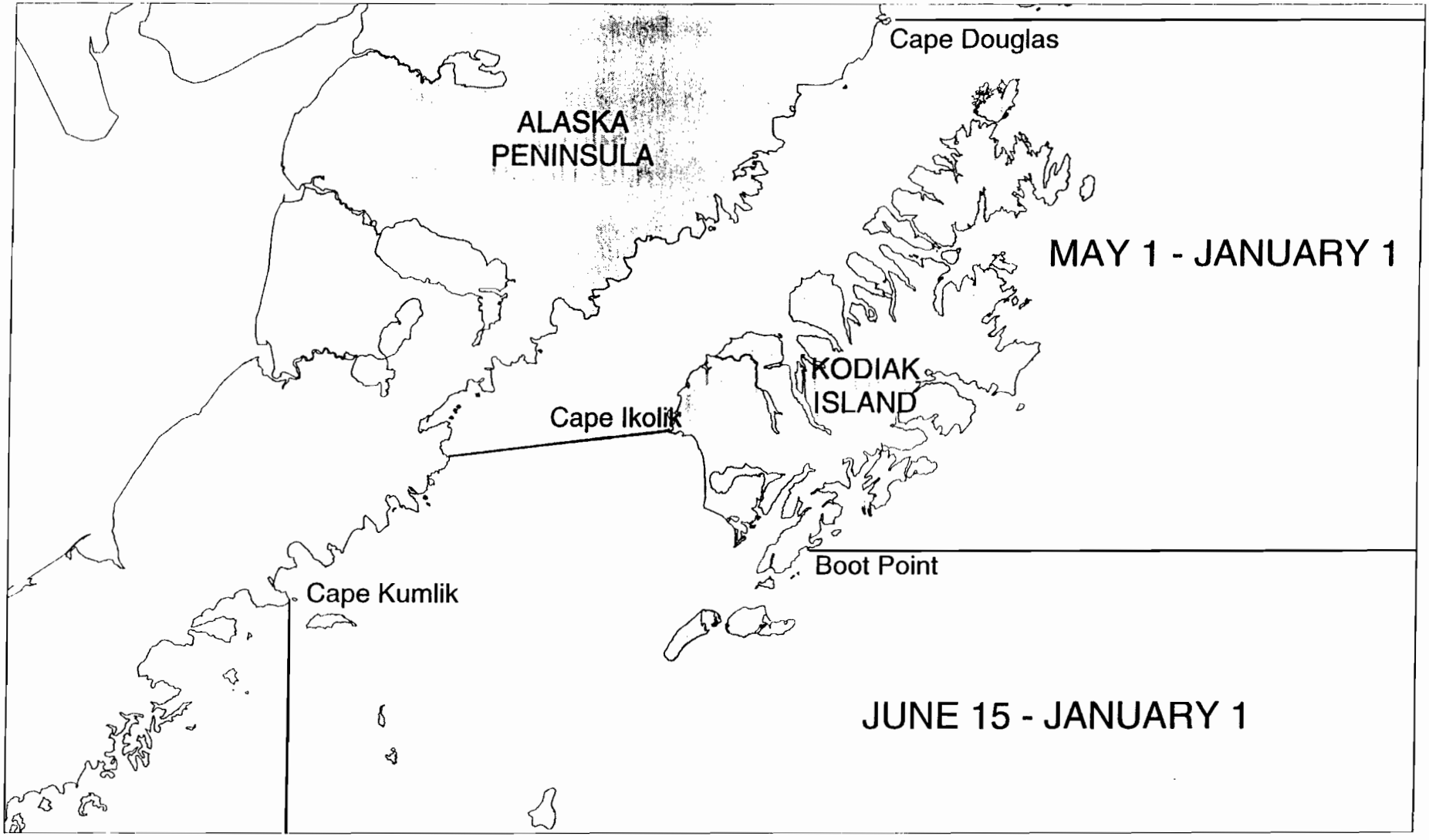

Figure 2-4. Kodiak District commercial Dungeness crab fishing seasons.

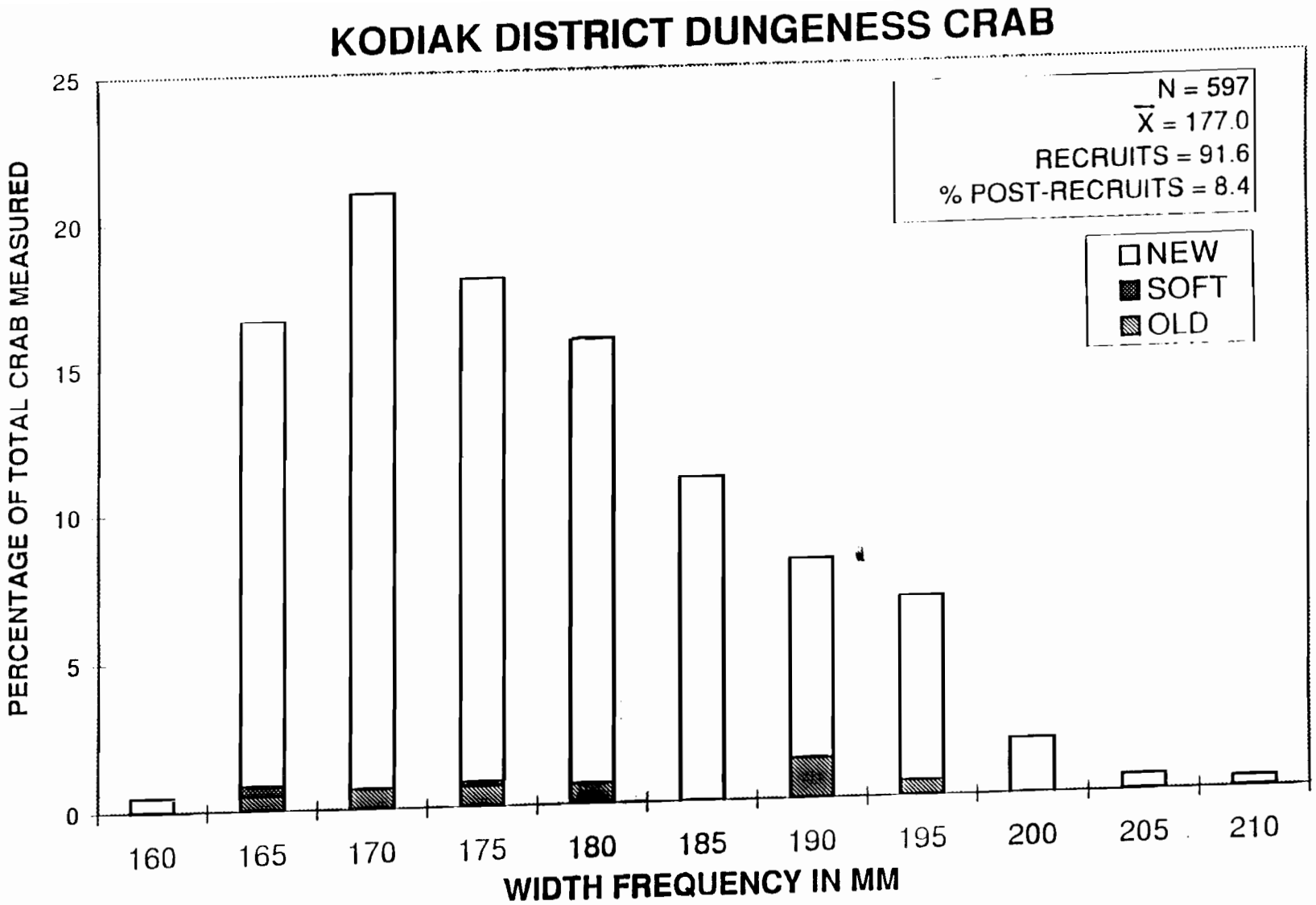

Figure 2-5. Kodiak District commercial Dungeness crab width frequencies, 1995.

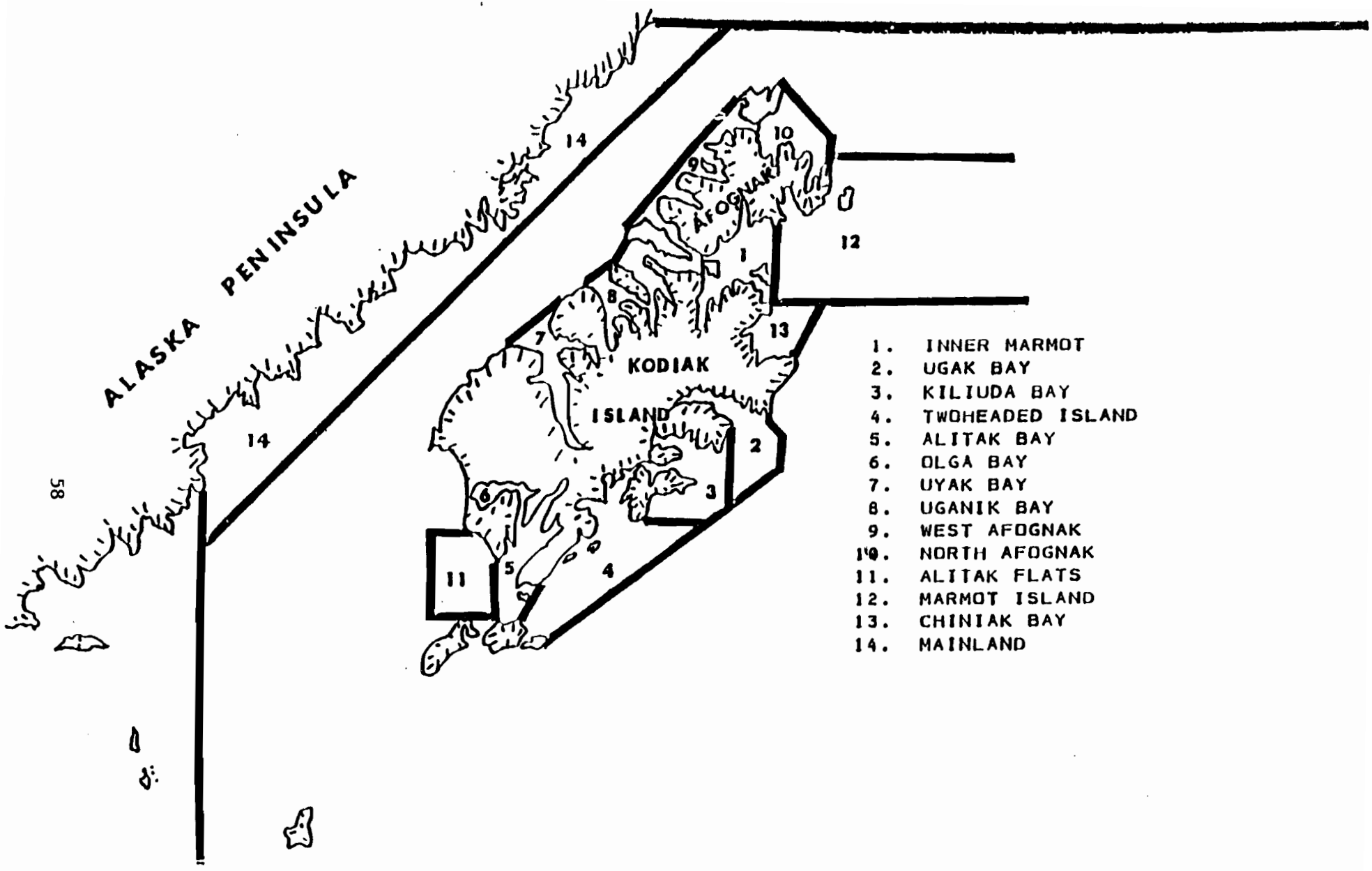

Figure 2-6. Kodiak District trawl shrimp fishing sections.

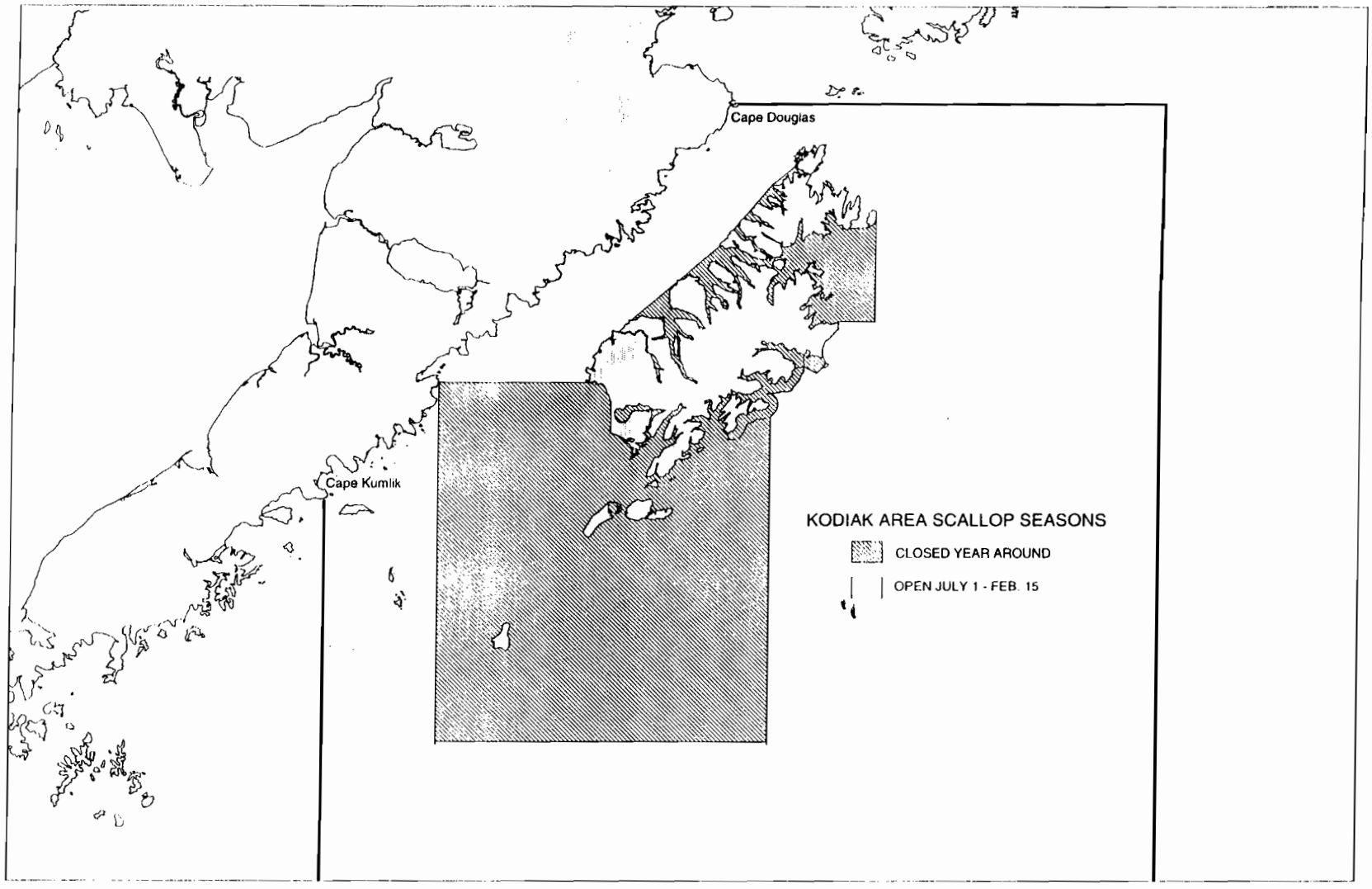

Figure 2-7. Kodiak scallop fishing registration area and closed waters.

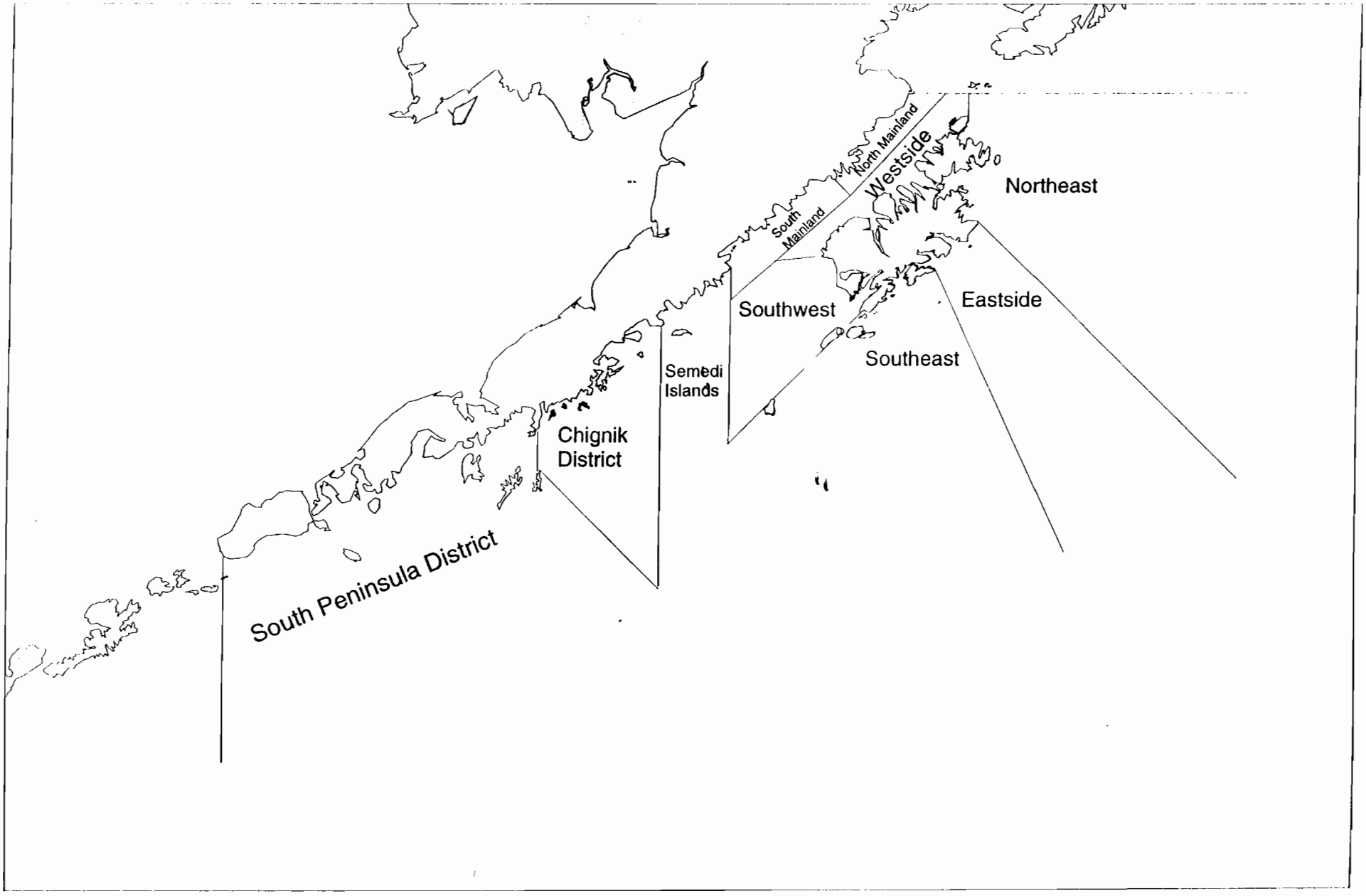

Figure 2-8. Commercial sea cucumber management areas.

ANNUAL MANAGEMENT REPORT FOR THE

SHELLFISH FISHERIES OF THE ALASKA PENINSULA AREA, 1995

By

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March 1997

ALASKA PENINSULA

Introduction

The Alaska Peninsula Management Area includes those waters of the Pacific Ocean west of the longitude of Cape Kumlik and east of the longitude of Scotch Cap Light (Figure 3-1).

Commercial shellfish fisheries have traditionally occurred in the Alaska Peninsula on king crab, Tanner crab, Dungeness crab, shrimp, scallops and octopus. Shellfish stocks are considered depressed and no commercial fishery has occurred since 1982 for king crab and shrimp and since 1989 for Tanner crab. Limited effort has occurred on Dungeness crab, scallops, sea cucumbers and octopus. This management area includes within it the communities of Chignik Lake, Chignik Lagoon, Anchorage Bay, Perryville, Ivanoff, Sand Point, King Cove, Cold Bay and False Pass.

KING CRAB

Introduction

The red king crab fishery in the Alaska Peninsula Registration Area M began in 1947, when 141,000 pounds were landed. The historic high catch of 22.6 million pounds occurred in 1966 (Table 3-1).

Of the three Area M king crab districts, the major portion of the harvest in the last ten years of fishing came from the Central District with Pavlof Bay being the major producer. The annual catch in the Unimak Bight District during the same period averaged less than half the Central District annual harvest. Catches in the Chignik District during this period varied depending on effort but did not exceed 386,000 pounds.

During the 1980/81 season the Area M harvest reached just over five million pounds, the highest catch since the 1968/69 season. The catch was the result of strong recruitment from 1978 through 1980. Recruitment has declined severely since that time. The fishery was closed for the first time during the 83/84 season and has remained closed since.

1995/96 Season Summary

As has been the case since 1983/84, the 1995/96 commercial fishery in Area M was not opened. The closure was announced by Emergency Order 4-S-07-95 on September 25, 1995.

Stock Status

The Alaska Department of Fish and Game conducted a survey of the Alaska Peninsula crab stocks in 1994, with the R/V Resolution covering king crab habitat throughout the registration area. Data from the 1994 survey indicated that the red king crab population was at a very low level with a total of only 96 red king crabs being captured in the 155 trawl hauls sampled (Table 3-2). One haul in Cold Bay accounted for 90 of the total crab captured. With stocks at these low levels, no commercial fishing is anticipated in the near future. No survey was conducted in 1995.

Brown King Crab

Occasionally fishermen express an interest in exploring Area M for brown king crab *Lithodes aequispina*. In 1983 five vessels registered but no catch was recorded. Presently, male brown king crab 6-inches or greater in shell width may be taken from January 1 through December 31 under a permit issued by the Commissioner. One vessel registered to fish for brown king crab in Area M during 1995 but no catch was record. Stock status is unknown, and no commercial quantities have been located to date.

CHIGNIK TANNER CRAB

Historic Background

The Chignik District of area J consists of the waters south of the Alaska Peninsula from Cape Kumlik west to Kupreanof Point.

The Chignik Tanner crab fishery began in 1968 when 21,000 pounds of crab were caught (Table 3-3). During the next four years, the market was uncertain and harvests were erratic. Other than a 14 day closure before each king crab season and limiting gear to pots or ring nets, few regulations governed the early fishery.

In 1973, market conditions improved, and 15 vessels produced nearly 750,000 pounds. There were 25 vessels the next year, and the catch grew to 4 million pounds. In 1975/76, 35 vessels landed the peak harvest of 7 million pounds. By 1976, the rapid growth of the fishery caused the BOF to adopt several protective regulations. A system to register and inspect vessels was adopted and the harvest was restricted to male crabs with carapace widths 5.5 inches or more. The seasons were set to open November 1 and to close in May or June to protect crabs during the mating and molting period. In addition, guideline harvest levels were established. Concern over lost pots led to the adoption of a regulation requiring that: "After July 1, 1978, each Tanner crab pot shall contain a mechanism that will destroy its fish catching and holding ability .... if lost or abandoned." For the next five seasons, the harvest was less variable, and catches ranged from 2.5 to 5.6 million pounds.

Three other points characterized the first 14 years of the Chignik District fishery. First, the productive grounds included nearly all waters of the District, with most of the production coming from the offshore waters between Mitrofania Island, Lighthouse Rocks, and the Semidi Islands. Second, most of the fishing began in late March after the Kodiak and South Peninsula District fisheries closed. Third, no abundance surveys were conducted during this period. The 5-10 million pound guideline was based on the historical harvests from 1974 to 1976/77. Even with the relatively liberal seasons, the guideline was rarely attained.

Since 1981, there have been several changes in the fishery. The Department conducted trawl surveys each summer from 1981 to 1984. The surveys predicted poor recruitment after the 1983 fishing season. Harvest projections were drastically reduced for the 1984 and 1985 fisheries.

As predicted, commercial harvests dropped sharply each season from 1984 to 1986. Following a minor increase in 1987, the 1988 catch declined to 183,000 pounds; the lowest harvest in 16 years. The catch did not decline uniformly over the grounds, but fell off first and most rapidly in the popular offshore waters. Production from offshore waters decreased steadily until production was limited for Chignik Bay and a few other near shore areas in 1988.
Concurrent with dwindling catches, fleet size decreased from 48 vessels in 1983 to 6 vessels in 1988 when four locally-owned seine vessels, one boat from Sand Point, and one 65 foot vessel from Kodiak participated in the fishery.

Beginning with the 1981 season, the fleet commenced fishing on November 2, the opening date of the season and continued fishing until the District was closed. However, as the fishery changed several changes to the opening date of the fishery were made: in 1981/82 the date was moved to December 15; subsequently, the date was set to February 10 for the 1983 and 1984 seasons. In part, the new dates were established to harvest the crab at peak quality. Further, some fishermen hoped the new dates would find the large vessels busy fishing in the Bering Sea thus reducing competition in the Chignik and South Peninsula Districts. However, in the adjoining South Peninsula District, seasons opening in February were found to extend into the crab molting period. Therefore, beginning in 1985, the opening date has been January 15. In 1988, the BOF adopted a March 31 closure date because molting was occurring before the former May 15 closure. Since 1990 the Chignik Tanner crab fishery has remained closed due to the low abundance of Tanner crab in the area.

In 1993 the BOF adopted pot limits for the Chignik District. This pot limit, effective for the combined Chignik and South Peninsula Districts, is 40 pots when the guideline harvest level is less than 600,000 pounds and 75 pots when the guideline harvest is 600,000 pounds or more.

1996 Fishery

The 1996 Tanner crab fishery in the Chignik District did not open. Emergency Order 4-S-03-96 was issued closing the Chignik District to Tanner crab fishing.

Stock Status

The department has conducted trawl surveys in the Chignik District for the past seven years. Population estimates of legal crabs have declined in 1989 from 497,000 legal males to 236,000 in 1991, and down to a record low of 46,500 in 1992. Legal male Tanner crab estimates have since increased to 130,000 but remain well below the levels of the late 1980s when the commercial fishery closed. Total numbers of male and female Tanner crabs declined in 1995 to the lowest level since the trawl survey began in 1989. Based on continuing low levels of prerecruits the department expects no significant increase in legal crab abundance in the near future. The commercial fishery remained closed during 1996.

SOUTH PENINSULA TANNER CRAB

Introduction

The South Peninsula District of Area J includes all waters south of the Alaska Peninsula from Kupreanof Point to Scotch Cap Light on Unimak Island. The first harvest of Tanner crab (*Chionoecetes bairdi*) from the area occurred in 1967 when 3,100 pounds were landed. The fishery grew quickly, and by 1973 harvests exceeded five million pounds (Table 3-4). In 1974 guideline harvest levels were established, and in 1975 seasons were imposed to protect adult crab during the mating and molting period. In 1976, the minimum size limit of 5.5 inches across the carapace was established. During the six seasons from 1974 through 1978/79, harvests ranged from 5 to 9 million pounds. The fishery peaked in 1978/79 when 9 million pounds of crab were caught. From 1979/80 to 1984 the harvest and CPUE declined in response to low recruitment to legal size into the population. The population declined in 1984 and the fleet only landed 2 million pounds. Recruitment improved in the years 1985 through 1988 and the harvest ranged from 2 million pounds to 4 million pounds. In 1989 the harvest decreased to 1 million pounds and recruitment also declined. The fishery has been closed since 1990 due to the low abundance of legal crab and the lack of recruitment. In 1993 the BOF established a pot limit of 75 pots when the guideline harvest is 600,000 pounds or greater. When the guideline harvest is less than 600,000 pounds the pot limit is 40 pots per vessel.

1996 Fishery

The 1996 C. bairdi Tanner crab fishery in the South Peninsula District did not open (Table 3-5). Emergency Order 4-S-03-96 was issued closing the South Peninsula District to *C. bairdi* Tanner crab fishing.

Stock Status

In 1994 the department conducted a trawl survey in the South Peninsula District to assess king and *C. bairdi* populations. Total estimated legal crab in the South Peninsula for 1994 was 185,000 crabs, down from the 1993 estimate of 267,000 crabs. Due to the continuing low abundance of legal males and anticipated low recruitment, the 1996 *C. bairdi* fishery will not open.

Deep Water Tanner Crab

The Alaska Peninsula was initially explored for deepwater Tanner crabs, *Chionoecetes tanneri*, and *C. angulatus* in 1994. The fishery was permitted under the terms of 5 AAC 35.082. Vessels were required to use single line pot gear and carry ADF&G approved observers. A minimum carapace width of 5.0 inches for *C. tanneri* and 4.5 inches for *C. angulatus* was stipulated. Two vessels fished in the Alaska Peninsula District and their harvest remains confidential.

Interest in deepwater Tanner crabs increased in 1995. Nine vessels participated, however only 6 made landings totaling 947,014 pounds (Table 3-6). Some activity occurred in every month except January. Most of the fishing has occurred on the band of continental shelf ranging from 250-400 fathoms in depth. The average catch per pot for the entire fishery was 84 crabs with an average weight of 1.6 pounds crab. Average size of crab delivered to shoreside processors was 131 mm in carapace width (Figure 3-2).

Information on the biology of deepwater Tanner crab is limited. Data still needs to be collected on the range and abundance of the stock. Other questions include the size of maturity, growth and injury rate, reproductive timing and molt timing. Fishery based observer studies are the only cost effective means to address these issues.

ALASKA PENINSULA DUNGENESS CRAB

Introduction

The Alaska Peninsula District is described as all waters of Statistical Area J west of the longitude of Cape Kumlik (157° 27' W. long.) and east of the longitude of Scotch Cap Light (164° 44' W. long.).

Historically, Dungeness catches from the District have been sporadic with the highest catch recorded in 1968 when 1.26 million pounds were landed (Table 3-7). Subsequent effort and catches remained low for many years due to low prices and better prospects in other fisheries. During the early 1980's, the decline in king crab stocks and a stronger market for Dungeness generated a renewed interest in the fishery. Local fishermen became concerned with over exploxitation of the Dungeness stock along with an increase in effort. In 1983 the Alaska Board of Fisheries made the Alaska Peninsula District a superexclusive registration area. The superexclusive

regulation has reduced effort in the district and poor catches of the last few seasons also discouraged participation in the fishery.

Management of the Alaska Peninsula District Dungeness fishery has been by sex, size and season. Only males greater than 6.5 inches in carapace width may be harvested from May 1 until January 1 or February 1 (the exact closing date has varied over the years). No research, including abundance surveys, has been conducted on the Dungeness of the area. Management activity has been limited to monitoring the deliveries and recording the harvest.

1995 Fishery

The Alaska Peninsula crab season opened May 1st. Since fewer than three vessels registered for the fishery, the catch remains confidential.

Stock Status

Information collected from the Alaska Peninsula Dungeness crab fishery has been limited to a few skipper interviews and sporadic catch samples. This sampling indicated that the catch has been predominantly recruit crab. Recruits are new-shelled legal males less than 194mm in carapace width

Since the department does not survey the Dungeness crab population there is no way to predict harvests or recruitment for the 1995 fishery. Dramatic cycles of low and high abundance have been observed in other Dungeness fisheries. The department has observed abnormally higher catches of small Dungeness crab during the summer trawl survey in the Chignik area. If these crab survive and recruit into commercial sized animals, the commercial catch should increase in the near future.

ALASKA PENINSULA SHRIMP

Introduction

The Alaska Peninsula is divided into the Chignik and South Peninsula Districts, with districts subdivided into sections that are managed according to the *Westward Region Shrimp Survey Management Plan.* Shrimp fishing in the Alaska Peninsula began in 1968 when 5.9 million pounds were landed (Table 3-8). Catch levels remained relatively low until the 1972/73 season when 19.6 million pounds were harvested. The historic high catch was reached in the 1977/78 season with a harvest of 71.5 million pounds. Catches declined rapidly until all South Peninsula Sections were closed in 1980. Although the Sutwik Island Section and all offshore waters of the Chignik District remained open in 1981/82, only 70,948 pounds of shrimp were landed from the area.

Since that time all the inshore waters have remained closed and no fishing actively has occurred in the open area offshore. No vessels registered and no deliveries were made from the offshore sections that were open to fishing during the 1995/96 season.

Stock Status

During 1995 ADF&G conducted a trawl survey in the Chignik Bay and Kuiukta Bay Sections of the Chignik District. A total of 13 shrimp tows were made and the catch of shrimp in the Chignik District averaged 146 pounds per nautical mile towed, down from the 246 pounds per nautical mile captured during the 1992 survey. The 1995 Chignik District population estimate was 1.4 million pounds, well below the 4.55 million pounds minimum acceptable biomass index needed to warrant a commercial fishery.

The National Marine Fisheries Service has conducted a shrimp survey in Pavlof Bay for the past 24 years. The catch of shrimp in the Pavlof section during the 1995 survey was the lowest in the history of the survey. Shrimp populations in the Pavlof Bay section are severely depressed; no significant recovery is anticipated in the near-term.

ALASKA PENINSULA SCALLOPS

Introduction

The Alaska Peninsula Registration Area includes the waters of the Pacific Ocean west of the longitude of Cape Kumlik and east of the longitude of Scotch Cap Light, excluding the Bering Sea.

Historic fishing effort for scallops around the Alaska Peninsula has been sporadic. Most catch and effort information is confidential due to less than three vessels participating. However in 1982, six vessels landed 205,691 pounds of scallop meats. In 1993, six vessels landed 135,487 pounds of scallop meats. (Table 3-9)

Closed areas include waters within three miles of shore and the offshore waters of Unimak Bight and around Mitrofania Island. The Unimak closure was adopted in the early 1970's to protect king crab habitat. The Mitrofania Island closure was adopted in the mid-1980's to protect Tanner crab populations.

In May of 1993 the commissioner declared the Alaska scallop fishery a "High Impact Emerging Fishery". An interim scallop management plan including 100% observer coverage and crab bycatch caps was implemented.

In March 1994 the Board of Fisheries reviewed and adopted the ADF&G scallop management plan. A fishing season of July 1 to February 15 was set to avoid scallop spawning and king and Tanner crab molting periods. The Alaska Board of Fisheries adopted the same percentages for bycatch of

crabs in the scallop fishery as were previously established by the State for the groundfish fisheries around Kodiak. Bycatch caps are based on crab population estimates derived from trawl surveys. Bycatch rates of one percent (1%) and one half of one percent (.5%) of the total population estimate of crabs are used to calculate the number of crabs allowed as bycatch. A one percent bycatch cap is applied in areas where a directed commercial crab fishery occurred the previous season. If an area did not open to a directed commercial crab fishery a cap of one half of one percent is applied.

The 1995 Fishery

The 1995 fishery was scheduled to opened by regulation on July 1, but on February 25, the National Marine Fisheries Service closed the Exclusive Economic Zone (EEZ) to scallop fishing awaiting amendments to the Federal Management Plan allowing a controlled fishery. The state waters open to scallop dredging were so limited that the Department of Fish and Game announced by Emergency Order 4-S-05-95 on June 27 that the Alaska Peninsula District would not open to fishing during the 1995/96 season. Conservation concerns for king and Tanner crab were also cited.

Stock Status

The ADF&G does not conduct assessment surveys for weathervane scallops in the Alaska Peninsula registration area. Historic fishing effort in the Alaska Peninsula area has been low and sporadic. However, the newly created scallop observer program will provide information necessary to assess the scallop resource. Currently the 1994 scallop observer data is being compiled and evaluated. Data collected by the observers such as catch rates, fishing locations, scallop shell heights and dredging effort will provide insight of the population structure. The department is currently in the process of aging observer collected scallop shells to determine growth rates and age structure of the scallop population.

ALASKA PENINSULA MISCELLANEOUS SHELLFISH

Octopus

Octopus have frequently been harvested in the Alaska Peninsula District. Most of the harvest has occurred as incidental catch in other fisheries. Until 1988 octopus were usually taken incidentally during the Tanner crab fishery. Since then, octopus has been landed by trawl and pot fishermen targeting codfish. The 1994 commercial harvest of octopus was 78,790 pounds landed by 26 vessels (Table 3-10). This has been the highest harvest recorded to date.

Sea Cucumbers

The Alaska Peninsula was initially explored for sea cucumbers in 1993. There were 93,701 pounds of eviscerated product landed by 13 divers primarily in November and December activity was sporadic throughout the winter but interest increased in March. The fishery remained open until April 8, 1994 when closed by emergency order after achieving guideline harvest levels. Those levels were published in a February 28, 1994 news release.

The Alaska Peninsula reopened to sea cucumber fishing on October 1, 1994 when the entire Westward Region reopened for the 1994/95 season from October 1 through April 30, 1995. A 50,000 pound guideline harvest level was established. Effort was minimal for the remainder of 1994 with only 3 divers registered.

Table 3-1. Catch and effort statistics for king crab in the Alaska Peninsula Area M, 1947-1995/96.

Year	No. Vssls	No. Lnds	No. Crab	No. Pounds	Pots Lifted	CPUE	Avg. Wt.	Price Per Lb
1947	NA	NA	18,800	141,000	NA	NA	7.5	NA
1948	NA	NA	518,500	3,363,000	NA	NA	6.5	NA
1949	NA	NA	205,500	3,476,000	NA	NA	12.0	NA
1950	NA	NA	270,000	2,124,000	NA	NA	7.9	NA
1951	NA	NA	86,500	599,000	NA	NA	6.9	NA
1952	NA	NA	32,400	298,000	NA	NA	7.6	NA
1953	NA	NA	38,400	380,000	NA	NA	10.0	NA
1954	NA	NA	31,666	316,660	NA	NA	10.0	NA
1955	NA	NA	164,069	1,640,688	NA	NA	10.0	NA
1956	NA	NA	421,651	4,221,496	NA	NA	10.0	NA
1957	NA	NA	668,709	6,687,092	NA	NA	10.0	NA
1958	NA	NA	724,595	7,245,947	NA	NA	10.0	NA
1959	NA	NA	568,303	6,166,974	NA	NA	10.0	NA
1960	NA	1,496	677,100	6,700,000	NA	NA	9.9	NA
1961	NA	959	419,354	3,900,000	NA	NA	9.3	NA
1962	NA	657	287,624	2,273,013	NA	NA	7.9	NA
1963	27	1,037	970,739	6,539,129	NA	NA	6.7	.09
1964	40	1,297	1,906,018	14,354,060	NA	NA	7.5	.10
1965	36	1,081	1,813,728	14,713,501	NA	NA	8.1	.10
1966	37	1,255	2,494,949	22,577,587	NA	NA	9.0	.10
1967	39	1,062	1,943,463	17,252,307	NA	NA	8.9	.19
1968/69	34	885	1,273,567	10,944,472	NA	NA	8.6	.34
1969/70	33	415	558,800	4,137,000	51,300	11	7.7	.25
1970/71	25	339	446,042	3,425,760	38,995	11	7.7	.25
1971/72	26	364	597,394	4,123,130	41,759	14	6.9	.28
1972/73	29	301	610,300	4,069,362	34,408	18	6.7	NA
1973/74	36	389	658,632	4,260,674	53,642	12	6.9	.72
1974/75	36	318	644,054	4,572,101	44,951	14	7.1	.43
1975/76	37	248	367,221	2,605,310	35,104	11	7.2	.41
1976/77	26	122	125,778	958,069[a]	17,748	7	7.7	.61
1977/78	15	73	119,641	726,382	10,551	11	6.1	1.00
1978/79	33	226	520,168	3,093,859	31,142	17	5.9	1.27
1979/80	68	288	738,859	4,453,557	41,753	18	6.0	.92
1980/81	51	358	821,071	5,080,632[a]	54,114	15	6.2	.96
1981/82	56	341	515,882	3,168,689	51,776	10	6.1	1.40
1982/83	63	157	271,237	1,683,654	30,894	9	6.2	3.20
1983/84				N O F I S H E R Y				
1984/85				N O F I S H E R Y				
1985/86				N O F I S H E R Y				
1986/87				N O F I S H E R Y				
1987/88				N O F I S H E R Y				
1988/89				N O F I S H E R Y				
1989/90				N O F I S H E R Y				
1990/91				N O F I S H E R Y				
1991/92				N O F I S H E R Y				
1992/93				N O F I S H E R Y				
1993/94				N O F I S H E R Y				
1994/95				N O F I S H E R Y				
1995/96				N O F I S H E R Y				

NA = Not Available

[a] Combined 6 1/2 inch and 7 1/2 inch seasons.

Table 3-2. Male red king crab abundance data from annual Alaska Peninsula (Area M) surveys, 1975-1994.

Year	Stations Fished	Pots Lifted	Legals		Sublegals	
			Number	CPUE[b]	Number	CPUE
1975	110	610	815	1.4	4,776	7.8
1976	129	801	874	1.1	8,006	10.0
1977	75	354	3,610	10.2	16,986	48.0
1978	62	355	7,259	20.4	10,960	30.9
1979	69	330	4,411	13.4	7,141	21.6
1980	120	700	8,110	11.6	7,263	10.4
1981	127	750	4,545	6.1	2,538	3.4
1982	113	630	1,197	1.9	805	1.3
1983	77	307	317	1.0	216	0.7
1984	218	498	324	0.6	25	0.0
1985	138	410	36	0.1	18	0.0
1986	129	400	65	0.2	52	0.1
1987	145	434	11	0.1	17	0.0
1988[a]	106		45		27	
1989	167		19		215	
1990	157		4		16	
1991	146		5		53	
1992	143		9		7	
1993	146		9		11	
1994	155		3		42	

[a]Trawl survey introduced in 1988. Catches and population estimates not directly comparable to pot survey results.
[b]Catch per pot lift.

Table 3-3. Chignik District Tanner crab catch and effort statistics, 1968-1996.

Year	Vssls	Number Lndgs	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Price Pound[b]	Percent Recruits[c]
1968	-	-	-	21,100	-	.-	-	.-	.-
1969	-	-	-	38,100	-	.-	-	.-	.-
1970	-	-	-	2,800	-	.-	-	.-	.-
1971	-	-	-	152,300	-	.-	-	.-	.-
1972				Harvest Confidential					
1973	15	56	297,363	747,788	8,080	2.5	51	.16	.-
1974	25	115	1,586,560	4,054,873	28,083	2.6	57	.20	.-
1974/75	25	91	1,438,508	3,649,444	22,675	2.5	63	.14	.-
1975/76	35	288	2,724,509	6,926,161	52,381	2.5	52	.185	.-
1976/77	21	141	2,098,226	5,672,919	40,604	2.7	52	.33	.-
1977/78	32	140	1,725,042	4,693,830	38,414	2.8	45	.42	.-
1978/79	39	126	926,253	2,536,105	28,378	2.7	33	.55	.-
1979/80	42	155	2,340,004	3,517,920	54,627	2.6	25	.54	.-
1980/81	24	112	1,534,847	3,653,723	44,022	2.4	35	.64	65.6
1981/82	45	174	1,343,500	3,240,576	47,830	2.4	28	1.21	64.7
1983	48	136	1,432,029	3,497,370	60,210	2.4	24	1.12	65.1
1984	17	41	269,724	659,043	14,665	2.4	18	1.09	33.5
1985	15	27	162,448	375,476	15,708	2.3	10	1.42	51.2
1986	6	12	85,697	188,162	7,435	2.2	12	1.97	85.3
1987	10	20	89,329	195,060	7,052	2.2	13	2.28	90.1
1988	6	11	87,148	183,111	6,544	2.1	13	2.33	91.3
1989	6	34	142,470	323,120	9,845	2.3	15	3.05	95.0
1990				NO OPEN SEASON					
1991				NO OPEN SEASON					
1992				NO OPEN SEASON					
1993				NO OPEN SEASON					
1994				NO OPEN SEASON					
1995				NO OPEN SEASON					
1996				NO OPEN SEASON					

[a]Includes deadloss.

[b]Computed only for live poundage where price information was available.

[c]Recruits = newshell male crab from 137 to 163 mm carapace width.

Table 3-4. Tanner crab catch and effort statistics for South Peninsula District, 1967-1996.

Year	Number Vssls.	Number Lndgs	Pots No. Crab[a]	Avg. No. Pounds[a]	Price Lifted	Percent Wt.	CPUE	Pound[b]	Recruits
1967				3,100					
1968		155	36,835	110,610		3.0			
1969		173	221,946	606,178		2.7			
1970				2,093,600					
1971	17	242	813,610	2,140,585		2.6		.10	
1972				3,618,900					
1973	36	390	2,213,006	5,615,563	53,573	2.5	41		
1974	44	386	3,504,668	8,300,578	58,444	2.4	60		
1974/75	44	131	2,053,530	5,195,800	38,153	2.5	54	.14	
1975/76	36	288	2,724,509	6,926,161	52,381	2.5	52	.20	
1976/77	28	389	2,524,565	6,773,838	63,143	2.7	40	.32	
1977/78	36	374	2,847,948	7,446,270	70,587	2.6	40	.40	
1978/79	48	332	3,267,122	8,684,408	82,374	2.7	40	.51	65.8
1979/80	61	363	2,581,544	6,961,251	96,989	2.7	27	.54	39.5
1980/81	43	268	1,274,539	3,294,106	59,560	2.6	21	.58	34.7
1981/82	72	365	1,815,060	4,589,042	81,008	2.5	22	1.05	50.2
1983	82	230	1,144,096	2,863,798	70,524	2.5	16	1.20	55.4
1984	61	207	775,472	1,789,883	50,726	2.3	15	1.04	29.6
1985	52	184	1,097,182	2,549,686	47,465	2.3	23	1.42	73.0
1986	74	187	1,589,759	3,781,950	65,078	2.4	24	1.72	72.9
1987	54	106	950,300	2,400,784	37,511	2.5	25	2.03	56.1
1988	73	148	1,359,371	3,328,809	52,516	2.4	26	2.20	78.6
1989	65[c]	87	433,112	1,055,082	27,958	2.4	15	2.70	52.9
1990					NO FISHERY				
1991					NO FISHERY				
1992					NO FISHERY				
1993					NO FISHERY				
1994					NO FISHERY				
1995					NO FISHERY				
1996					NO FISHERY				

[a]Includes deadloss.

[b]Computed for live crab only.

[c]One additional vessel was registered but did not fish in the District.

Table 3-5. Tanner crab commercial fishing periods in the South Peninsula District, 1974-1996.

Year	Open	Closed
1974/75	August 15	June 15
1975/76	November 1	June 30
1976/77	November 1	May 15
1977/78	November 1	May 15
1978/79	November 1	May 15
1979/80	November 1	May 15
1980/81	November 1	May 15
1981/82	December 1	March 13
1982/83	December 15	March 17
1984	February 10	March 10
1985	February 10	March 20
1986	January 15	March 10
1987	January 15	February 5
1988	January 15	January 26
1989	January 15	January 22
1990	Closed	
1991	Closed	
1992	Closed	
1993	Closed	
1994	Closed	
1995	Closed	
1996	Closed	

Table 3-6. Commercial catch and effort for the Tanner crab *Chionoecetes tanneri*, Alaska Peninsula District, 1994 - 1995.

Year	Vessels	Landings	No. Crab[a]	No. Pounds[a]	No. of Pot Lifts	CPUE	Average Weight	Price Per Lb.	Dead-loss
1994					Confidential				
1995	6	34	600,984	947,014	7,143	84	1.6	$1.40	24,473

[a]Deadloss included.

Table 3-7. Dungeness crab harvest statistics. Alaska Peninsula District. 1968-1995.

Year	Vssls	Lndgs	No. of Crab[a]	No. of Pounds[a]	Pots Lifted	CPUE	Avg. Wt.	Price Per #
1968	NA	NA	434,142	1,259,013	NA	NA	2.9	NA
1969	NA	NA	411,000	1,056,000	NA	NA	NA	NA
1970	NA	NA	4,200	13,000	NA	NA	NA	NA
1971	NA	NA	3,900	11,000	NA	NA	NA	NA
1972	NA	NA	29,400	65,000	NA	NA	NA	NA
1973	Confidential							
1974	NO EFFORT							
1975	NO EFFORT							
1976	NO EFFORT							
1977	NO EFFORT							
1978	NO EFFORT							
1979	Confidential							
1980	NO EFFORT							
1981/82	Confidential							
1982/83	16	79	357,955	779,600	59,265	6	2.2	$ .75
1983/84	18	132	565,430	1,207,128	113,061	5	2.1	$ .97
1984/85	13	99	294,191	647,497	106,056	3	2.1	$ 1.38
1985/86	7	31	239,202	488,107	52,117	5	2.0	$ 1.26
1986/87	6	28	87,925	180,261	30,280	3	2.0	$ 1.05
1987/88	6	21	88,744	182,706	22,588	4	2.1	$ 1.11
1988	Confidential							
1989	Confidential							
1990	4	10	31,074	65,806	5,225	6	2.1	$ 1.53
1991	7	18	39,069	80,248	12,813	3	2.1	$ 1.24
1992	Confidential							
1993	3	15	127,979	273,811	15,675	8	2.1	$ .79
1994	4	24	134,429	277,639	27,950	5	2.1	$ 1.01
1995	Confidential							

NA = Not Available.
[a]Includes deadloss.

Table 3-8. Historic South Peninsula and Chignik District shrimp harvest statistics.

Year.	SOUTH PENINSULA Vssls	Lndgs.	No. Pounds	Price/Lb.	CHIGNIK Vssls.	Lndgs.	No. Pounds	Price/Lb.
1968		Confidential				Confidential		
1969		Confidential				Confidential		
1970	4	173	4,398,800	.04			890,705	
1971		Confidential				Confidential		
1972/73			14,740,801	.07			4,829,117	
1973/74	12	347	19,987,246	.07	33	277	51,673,788	.08
1974/75	22	387	26,145,720	.08	37	323	23,392,352	.08
1975/76	24	326	20,044,112	.09	50	334	24,435,480	.08
1976/77	19	424	37,148,932	.09	48	303	27,232,630	.10
1977/78	48	409	45,003,794	.13	50	271	26,512,791	.13
1978/79	23	108	9,418,276	.16	40	201	23,257,869	.17
1979/80	10	41	3,134,367	.21	45	195	23,722,330	.23
1980/81		CLOSED			54	148	12,843,270	.29
1981/82		CLOSED			3	4	70,948	.27
1982/83		NO ACTIVITY				NO ACTIVITY		
1983/84		NO ACTIVITY				NO ACTIVITY		
1984/85		NO ACTIVITY				NO ACTIVITY		
1985/86		NO ACTITIVY				NO ACTIVITY		
1986/87		NO ACTIVITY				NO ACTIVITY		
1987/88		NO ACTIVITY				NO ACTIVITY		
1988/89		NO ACTIVITY				NO ACTIVITY		
1989/90		NO ACTIVITY				NO ACTIVITY		
1990/91		NO ACTIVITY				NO ACTIVITY		
1991/92		NO ACTIVITY				NO ACTIIVTY		
1992/93		NO ACTIVITY				NO ACTIVITY		
1993/94		NO ACTIVITY				NO ACTIVITY		
1994/95		NO ACTIVITY				NO ACTIVITY		
1995/96		NO ACTIVITY				NO ACTIVITY		

Table 3-9. Historic commercial catch, effort and value of Weathervane scallops, Alaska Peninsula Management Area, 1975 through 1995.

Year	No. Vssls	No. Lndgs	Commercial Catch (pounds)[a]	Average Landings (pounds)[a]	Average Price/Lb	Est. Value Ex.-Vessel (dollars)
1975			CONFIDENTIAL			
1976			NO FISHING			
1977			NO FISHING			
1978			NO FISHING			
1979			NO FISHING			
1980			NO FISHING			
1981			NO FISHING			
1982	6	20	205,691	10,284	3.35	689,064
1983			CONFIDENTIAL			
1984			NO FISHING			
1985			CONFIDENTIAL			
1986			NO FISHING			
1987			CONFIDENTIAL			
1988			CONFIDENTIAL			
1989			NO FISHING			
1990			CONFIDENTIAL			
1991			CONFIDENTIAL			
1992			NO FISHING			
1993	6	9	135,487	15,054	4.15	562,271
1994	7	12	66,412	5,534	5.79	384,525
1995			NO FISHING			

[a]Pounds of shucked scallop meats.

Table 3-10. Historic deliveries of octopus in the Alaska Peninsula District, 1980-1995.

YEAR	VESSELS	LANDINGS	POUNDS	AVERAGE PRICE
1980			CONFIDENTIAL	
1981			CONFIDENTIAL	
1982			CONFIDENTIAL	
1983			CONFIDENTIAL	
1984			CONFIDENTIAL	
1985			CONFIDENTIAL	
1986			NO FISHING	
1987			NO FISHING	
1988	30	185	43,332	$ .92
1989	27	122	14,890	$1.00
1990	20	83	11,504	$1.00
1991	30	106	21,812	$1.00
1992	94	---	61,943	$1.00
1993	48	---	24,417	$1.00
1994	26	---	78,789	$ .59
1995	25	53	11,810	$ .45

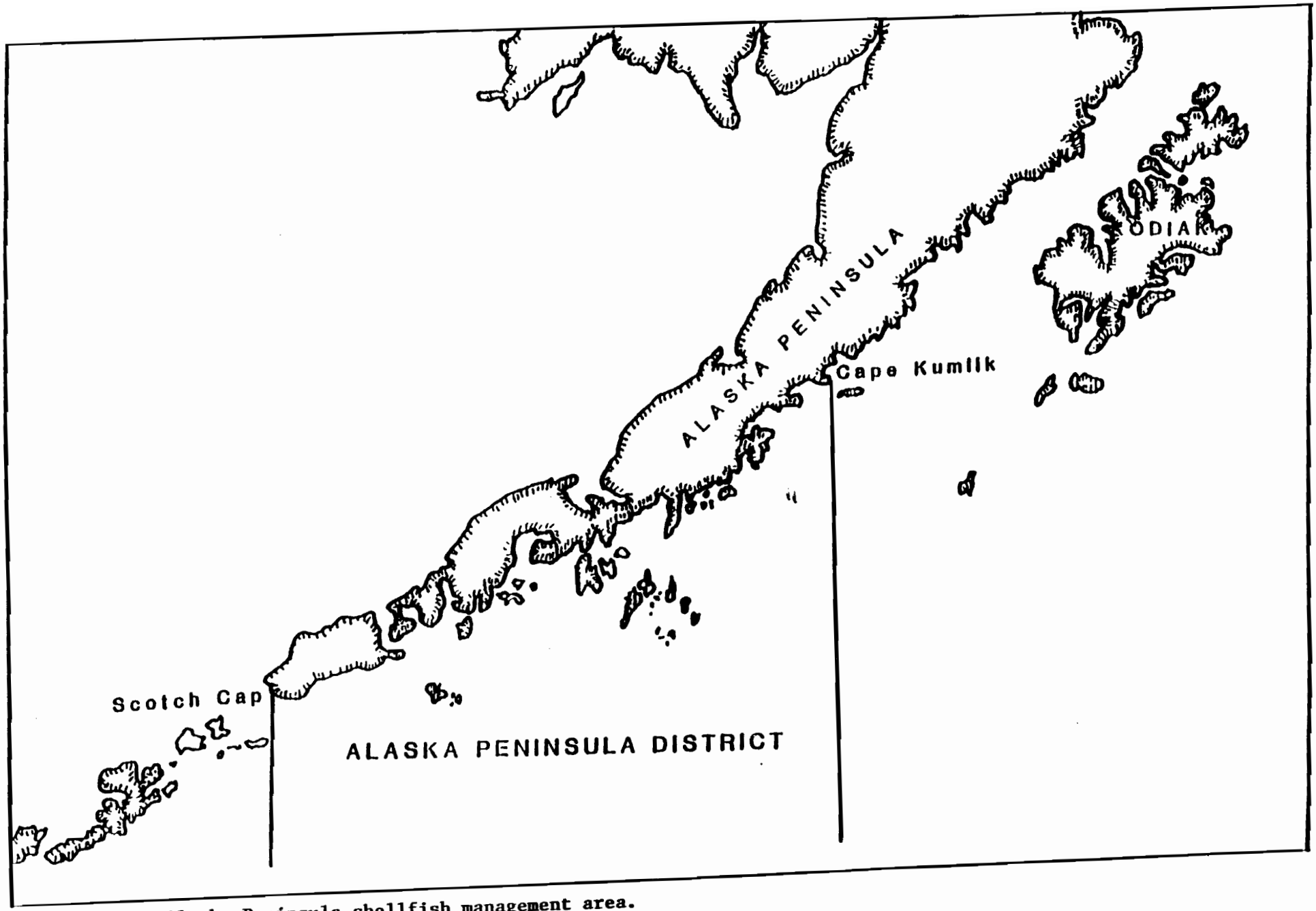

Figure 3-1. Alaska Peninsula shellfish management area.

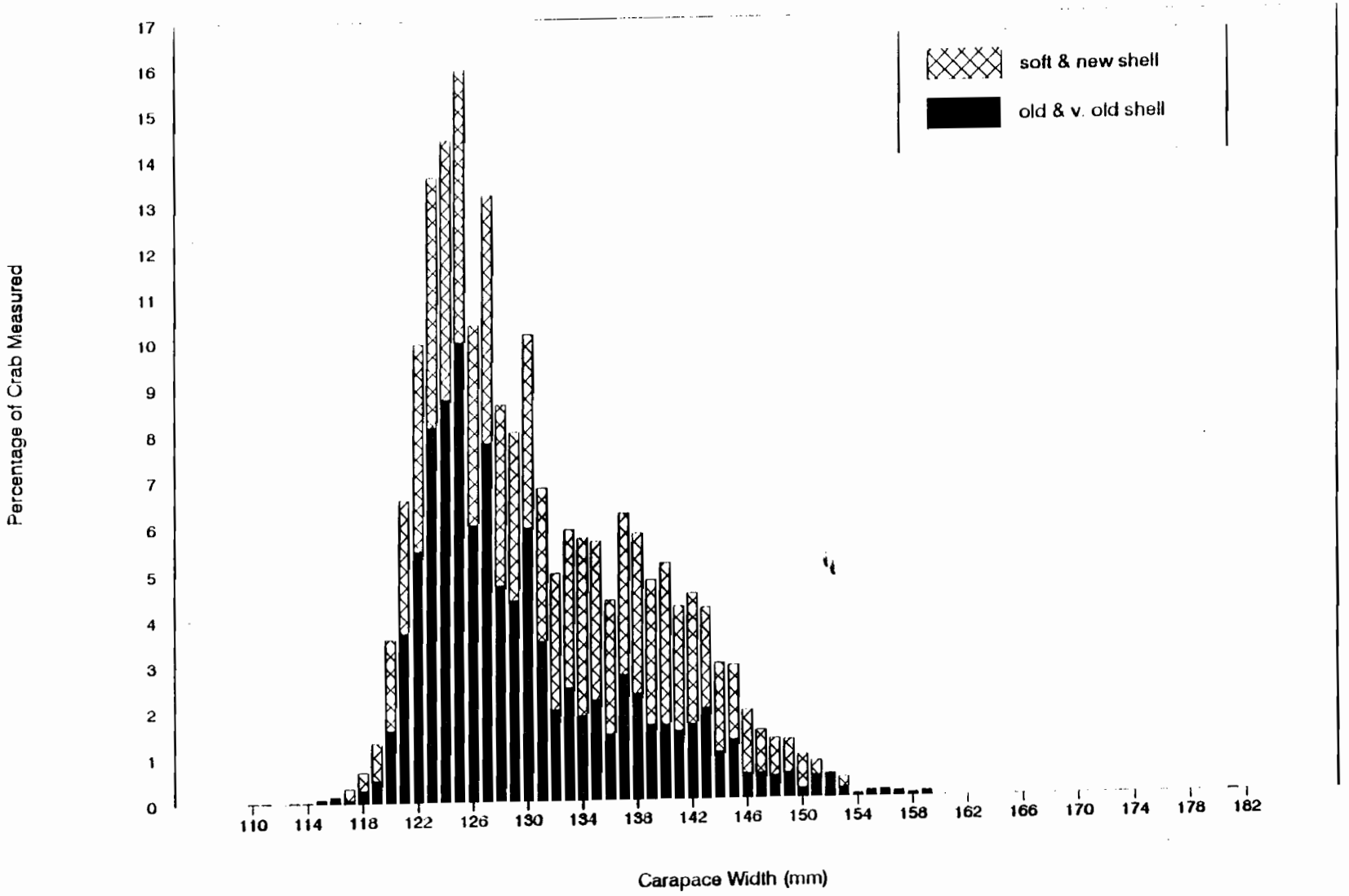

Figure 3-2. South Peninsula District commercial C.tanneri width frequencies, 1995.

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE EASTERN ALEUTIAN AREA

By

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March 1997

DUTCH HARBOR BROWN KING CRAB

Introduction

Dutch Harbor Statistical Area O has as its northern boundary the latitude of Cape Sarichef (54° 36' North latitude), as its eastern boundary the longitude of Scotch Cap Light (164°44' West longitude), and as its western boundary 171° West longitude.

Historic Background

Historically, Dutch Harbor brown king crab have been taken incidental to the red king crab fishery. Incidental catches of brown king crab were small and landings of red king crab included some brown king crab prior to the 1981/82 season. The poundage was not recorded separately.

During the 1981/82 season, six vessels landed over 115,000 pounds during the red king crab season (Table 4-1). Only one landing occurred during January 1982. The season closed along with the area red king crab season on January 15.

Interest in the fishery grew and during the 1982/83 season 49 vessels landed over 1.1 million pounds in the area's first directed brown king crab fishery. As red king crab stocks declined, effort and interest in brown king crab continued into the 1983/84 season, when 1.8 million pounds were landed by 47 vessels.

In 1984 the Board of Fisheries adopted staff proposals to lower the brown king crab size limit from 6.5 inches to 6.0 inches, and established the area as a permit fishery to allow the fishery to expand into other areas outside the historical fishing grounds. During the 1984 permit season, prices and effort dropped. Thirteen (13) vessels landed 1.5 million pounds of brown king crab. Since implementation of the permit system the catch has averaged over 1.6 million pounds per year. All landings were taken from historical grounds developed during the 1982/83 season. During the 1988 Spring shellfish meetings the Board of Fisheries adopted a staff proposal removing the permit fishery designation and set a season opening date of September 1.

While the number of vessels participating in this fishery has remained somewhat consistent, the total number of pot pulls increased dramatically in 1994. During the 1993/94 fishery a total of 22,490 pots were pulled compared to 67,537 in the 1994 fishery. As a result, the season length went from 212 days in 1993/94 to 57 days in a season which opened on September 1 and closed on October 28, 1994 (Table 4-2).

Intensification of effort in this fishery, and the lack of survey data or abundance estimates for this area, resulted in the Board of Fisheries implementing regulations requiring 100% observer coverage on all vessels in the Dutch Harbor brown king crab fishery beginning with the September 1 opening of the 1995 season. Observer coverage was considered necessary to begin collecting information which could be used to estimate population abundance. Survey information is not available, and

brown king crab and other deep water species do not lend themselves to standard trawl survey techniques. Also, catcher processors, which have been required to carry observers since 1988 in all Bering Sea king and Tanner crab fisheries, seldom participate in this fishery.

1995 Fishery

The 1995 Dutch Harbor brown king crab fishery opened by regulation on September 1. A total of 17 vessels obtained observers and participated. This is comparable to the 14 vessels which participated during the 1994 season.

A total of 1,993,980 pounds were landed in 42 deliveries during the 1995 season which closed by emergency order on October 9, 1995. At 38 days, the 1995 season was the shortest on record. Fleet-wide performance for the 1995 fishery was six crab per pot, identical to the prior season but lower than any other year on record.

Average weight for this season was once again 4.6 pounds, the same as last year's fishery, which was higher than the average for the last five years but below the historic high of 5.5 pounds recorded for the 1983/84 fishery. A total of 65,000 pots were pulled during the 1995 fishery, down slightly from the 67,537 pot pulls recorded in 1994. The majority of the 1995 catch was harvested during September from the western half of the Management Area (Tables 4-3 and 4-4).

Ex-vessel value for the 1995 season was $2.60 per pound, a dramatic decline from the $4.00 paid in 1994, which was the highest on record. Total value of the 1995 Dutch Harbor brown crab fishery was $5.0 million, down from the $6.9 million estimated value of last season's fishery. Reductions in ex-vessel prices paid for Dutch Harbor brown king crab are likely a result of a surplus of Russian king crab currently on the market.

During the course of the 1995 fishery onboard observers sampled the contents of 2,436 pots on catcher-only vessels and 76 pots on the one catcher processor which participated in this year's fishery.

Stock Status

The brown or golden king crab, *Lithodes aequispinus*, fishery in the Aleutian Islands is the fourth largest shellfish fishery in Alaska. The federal Fishery Management Plan for the Aleutian golden king crab fishery requires that recruitment over-fishing not occur and that fishing mortality not exceed 0.3 (a 25% exploitation rate) annually. However, prior to 1991, no systematic survey of brown king crabs had been conducted in Alaska. The results from a study of a brown king crab survey initiated in 1991 was published in October 1994; Regional Information Report No. 4K94-35, FINDINGS FROM THE 1991 GOLDEN KING CRAB SURVEY IN THE DUTCH HARBOR AND ADAK MANAGEMENT AREAS INCLUDING ANALYSIS OF RECOVERED TAGGED CRABS. This report is available to the public from the Commercial Fisheries Management and Development Division, 211 Mission Road, Kodiak, AK 99615.

With implementation of 100% observer coverage, area specific information is now being collected on size, number and distribution of all crab and fish species captured.

DUTCH HARBOR RED KING CRAB

Introduction

The Dutch Harbor area, or Statistical Area O, has as its northern boundary at the latitude of Cape Sarichef (54°36') North latitude, its eastern boundary the longitude of Scotch Cap Light on Unimak Island at 164°44' West longitude and its western boundary at 171° West longitude (Figure 4-1). The Dutch Harbor area is further broken down into five fishing districts (Figure 4-2). Declining red king crab stocks in the early 1980's resulted in a closure of the fishery in 1983. The red king crab fishery has remained closed since that time. Although red king crab was the primary target species, a brown king crab fishery has developed since the closure of the red king crab fishery and is now the focal point of the Dutch Harbor area king crab fishery.

Historic Background

The Dutch Harbor red king crab fishery began in 1961 and rapidly became one of the State's major production areas. During the development years of the fishery, the catch peaked at an all time high of 32.9 million pounds during the 1966/67 season.

Since 1966/67 the fishery has fluctuated widely. A sharp decline characterized the fishery between 1967 and 1970. After the low catch of 8.9 million pounds during the 1969/70 season, the fishery gradually rebuilt to a peak of 15.9 million pounds during the 1975/76 season(Table 4-5). The increase appeared to be largely a result of improved catches in the Egg Island District, and expansion into new grounds in the Western District.

For the second time in the history of the fishery, a sharp decline followed several years of increasing harvests and the 1977/78 season marked a new low in the Area O fishery. The decline was area wide, and all districts suffered poor catches.

By 1980/81 catches had reached the highest level in 13 years, and although populations had rebuilt somewhat in several of the districts, the bulk of the increase was due to the exploitation of previously unfished populations in the Unalaska and Western Districts. During this fishery nearly 39 percent of the catch came from areas only lightly fished during the previous seasons.

1995/96 Fishery

Due to the low abundance of red king crab there was no fishery for the 1995/96 season.

Stock Status

The Alaska Department of Fish and Game conducted a survey of the Dutch Harbor area during the summer of 1995; the previous surveys having been done in 1991 and 1994 with an emphasis on areas where historically significant fisheries had occurred. The 1991 and 1994 surveys indicated that no significant improvement in these stocks had occurred. The results of the 1995 survey indicated further reductions in the stocks, as no red king crab were caught. Based on these results no recovery is expected in the near future.

DUTCH HARBOR SCARLET KING CRAB

Introduction

Dutch Harbor Statistical area O has its northern boundary the latitude of Cape Sarichef (54°36'), as its eastern boundary the longitude of Scotch Cap Light (164°44'), and as its western boundary 171° West longitude.

Historic Background

Scarlet king crab, *Lithodes couesi*, are harvested under authority of a permit as authorized in 5AAC 35.082. *L. couesi* have been harvested from the Dutch Harbor Management Area incidental to the *C. tanneri* fishery. Information regarding vessel effort and number of landings has been below the minimum to allow public dissemination.

1995 Fishery

A total of three vessels registered to catch *Lithodes couesi* as a bycatch in the more popular Dutch Harbor *C. tanneri* fishery. Three vessels made 7 landings for a total harvest of 13,871 pounds. The average weight was 2.2 pounds per crab with a catch rate (CPUE) of one crab per pot pull.

Stock Status

There are no population estimates made for Dutch Harbor *Lithodes couesi.* However, 100% observer coverage has provided information on the size, sex, and species composition of the

retained and non-retained catch. This information will be analyzed and used to develop management measures for these deep water crab stocks.

EASTERN ALEUTIAN DISTRICT TANNER CRAB

Introduction

The Eastern Aleutian District for Tanner crab encompasses all waters of Statistical Area J between the longitude of Scotch Cap Light and 172° West longitude, and south of 54°36' North latitude. The Eastern Aleutian District is marginal habitat for Tanner crab (*Chionoecetes bairdi*), as evidenced by the presence of commercial quantities in only a few major bays and inlets. The fishery has been rather small, and although the 1977/78 season produced a record catch of 2.4 million pounds, seasonal catches have remained significantly less than one million pounds (Table 4-6). The fishery began in Akutan and Unalaska Bays but has since expanded to include all areas known to contain Tanner crab. In the 1994 fishery eight vessels made 120 landings for a total harvest of 166,545 pounds.

1995 Fishery

There was no fishery for the 1995 season due to low abundance of *C. bairdi* Tanner crab.

Stock Status

Previous surveys of the Eastern Aleutian District in 1990 and 1991 indicated a population level that could support a harvest in the 100,000 pound range. The Department conducted another survey of the district in 1994. This survey showed a 750% decline in the population of C. bairdi Tanner crab from levels observed during the prior survey. This dramatic decline in the population prompted an emergency closure for the 1995 season. Data collected from the 1995 survey indicate an increase in abundance over the 1994 survey, but below levels observed during the 1990 and 1991 surveys. An increase of juvenile males and immature females was observed in the 1995 survey compared to the previous year's survey. The abundance of legal males, however, have declined well below 1994 estimates.

EASTERN ALEUTIAN *CHIONOECETES TANNERI*

Historic Background

In the early 1980s *Chionoecetes tanneri* Tanner crab were occasionally landed in the Eastern Aleutian Tanner crab management area incidental to the developing brown king crab fishery around

the Dutch Harbor area. Until 1993 however, no steady market existed for *C. tanneri* and few, if any, were sold commercially.

During 1993, interest in *C. tanneri* increased and commercial landings were made from the Eastern Aleutian District. Fishing effort in this district was from July through December, and only one vessel participated during the entire season. In 1993, the department restricted the harvest to males five inches or greater in carapace width.

To collect biological information on *C. tanneri* crab the department implemented 100% observer coverage in 1994, as allowed by the permit provisions provided in 5 AAC 35.082. Effort in the fishery increased from one to three vessels in 1994. Vessels started fishing for *C. tanneri* in March after the closure of the *C. opilio* fishery and continued through December.

1995 Fishery

A total of seven vessels obtained observers and participated in a directed *C. tanneri* fishery in the Eastern Aleutian district in 1995. Landings totalled 850,427 pounds from 51 deliveries. Catch per pot pull (CPUE) for the *C. tanneri* fishery in this area was 6 crab per pot with an average weight of 1.7 pounds per crab (Table 4-7). Average exvessel price was $1.57 per pound for a fishery value of approximately $1.3 million. This compares to 1994 when 27 landings were made for a harvest of 759,239 pounds. During the 1994 season, CPUE was 11 crab per pot and the average weight of crab harvested was 1.8 pounds (Table 4-7).

Deliveries in 1995 averaged 16,675 pounds. In 1994 the average delivery was 28,120 pounds. Several deliveries of *C. tanneri* in 1995 occurred as bycatch in the Dutch Harbor brown king crab fishery and by vessels targeting on *C. angulatus*.

In 1995 vessels fished an average of 598 pots and made 75,259 pot pulls. Effort began in May and continued throughout the year. Vessels fished in nineteen statistical areas both north and south of Umnak and Unalaska Islands.

Status of Stocks

No stock assessment surveys are conducted for *C. tanneri* Tanner crab, and consequently no population estimates are available. Onboard observers have been required on all vessels targeting *C. tanneri*, beginning in 1994. This program has yielded information on size, sex and species composition of the non-retained catch necessary to manage these stocks.

EASTERN ALEUTIANS *CHIONEOCETES ANGULATUS*

Introduction

The Eastern Aleutian District for Tanner crab encompasses all waters of Statistical Area J between the longitude of Scotch Cap Light and 172° West longitude, and south of 54°36' North latitude.

Historic Background

Chioneocetes angulatus, which are harvested under provisions of a special permit authorized under 5AAC 35.082, has been caught incidental to the *C. tanneri* fishery. Fishermen have reported catching this crab species in small amounts, but prior to the 1995 season it was not reported on fish tickets. Shellfish observers required on all deep water Tanner crab fisheries reported a small percentage of *C. angulatus* in 1994.

1995 Fishery

A total of 7 vessels registered and obtained observers to fish for *C. angulatus* either as a bycatch of the *C. tanneri* fishery or target species in 1995. Because less than three vessels reported any catch, vessel participation and catch information is confidential.

Stock Status

No population estimates are available for *C. angulatus.* Onboard observers have been required on all vessels targeting on *C. angulatus* and *C. tanneri* and have collected information on size, sex and species composition of the retained and non-retained catch . This information is being analyzed and will be used to develop management measures for these stocks.

ALEUTIAN DISTRICT DUNGENESS CRAB

Introduction

The Aleutian District for dungeness crab includes all waters of Statistical Area J west of the longitude of Scotch Cap Light at 164°44' West longitude and south of the latitude of Cape Sarichef (54°36') and encompasses all the Aleutian Islands.

Islands in the Aleutian chain are separated by deep passes with swift currents. They are closely bordered on the north and south by the Aleutian Basin and Trench respectively. Brown king crab are found in these deep waters adjacent to the "Chain", but Dungeness crab prefer shallower bays.

Shallow areas suitable to Dungeness populations are few, and explains the small populations and low effort in the district.

Historic Background

The Aleutian District Dungeness fishery is primarily a small vessel, summer fishery occurring in the vicinity of Unalaska Island, within Unalaska Bay. Some larger vessel effort has occurred in other bays on the island. Effort in these areas has been sporadic throughout the history of the fishery.

Interest and activity in this fishery has been erratic from year to year, with the first reliable reports made in 1970. Since 1974 deliveries have ranged from zero in 1976, 1977, 1980, 1981 and 1994 to over 91,000 pounds in 1984/85 (Table 4-8).

1995/96 Fishery

The Aleutian District Dungeness fishery opened by regulation at 12:00 noon on May 1. Four vessels registered for this fishery during the 1995/96 season. No commercial landings were made, however. The fishery closed by regulation at 12:00 noon on January 1.

ALEUTIAN DISTRICT SHRIMP

Introduction

The Aleutian District of Area J for shrimp includes all Bering Sea and Pacific Ocean waters west of the longitude of Cape Sarichef, at 54°36' North latitude and 164°55' West longitude. The Aleutian District includes four identified sections: Unalaska Bay, Makushin Bay, Usof Bay and Beaver Inlet.

Historic Background

The shrimp fishery in the Aleutian District began in 1972 and has been predominately a trawl fishery. Catch and effort increased in the following years and peaked in 1977/78 at a harvest of 6.8 million pounds. Sharp declines in catches since 1978 prompted a reduction in season length. Between the years 1983 and 1992 no fishing occurred. However, in 1992 four vessels, all catcher processors, prospected in the Aleutian District during the closed pollock season. They were looking for an alternate fishery to supplement their main pollock trawling fishery. Low concentrations of shrimp were located and all four vessels quit after making a total of six landings for 72,133 pounds (Table 4-9).

1995 Trawl Fishery

No vessels registered to trawl for shrimp in the Aleutian District during the 1995 season.

1995 Pot Fishery

Only one vessel participated in the fishery, however, no commercial harvests were reported.

EASTERN ALEUTIAN DISTRICT MISCELLANEOUS SHELLFISH SPECIES

Introduction

For miscellaneous species, the Eastern Aleutian District is defined as all waters south of the latitude of Cape of Sarichef (54° 36' North latitude), west of the longitude of Scotch Cap Light (164° 44' West longitude), and east of 172° West longitude. Miscellaneous shellfish fisheries include, but are not limited to, the species listed below.

Octopus

Twelve vessels registered to harvest octopus with pots from the Eastern Aleutian District during the 1995 season. A total of 21 landings were made by 10 vessels for a harvest of 13,385 pounds. The catch rate of was less than one octopus per pot, there is no recorded reliable average weight. Nine of the 12 vessels harvested octopus as bycatch in various crab fisheries. Three vessels obtained observers and fished octopus as a target species during October. These three vessels made four landings for a harvest of 1,541 pounds. The catch rate was less than one octopus per pot and the average weight was 23 pounds. Data for the directed fishery are included in the above totals. An additional 27,951 pounds of octopus was harvested as bycatch in the groundfish fisheries.

Sea Urchins

Two vessels and two divers working from the shore registered to harvest sea urchins from the Eastern Aleutian District during the 1995 season. There was no reported harvest.

Sea Cucumbers

Two vessels registered to harvest sea cucumbers from the Eastern Aleutian District during the 1995 season. There was no reported harvest.

Snails

No vessels registered to harvest snails from the Eastern Aleutian District during the 1995 season.

Hair Crab

One vessel registered to harvest hair crab from the Eastern Aleutian District during the 1995 season. There was no reported harvest.

Paralomis multispina

One vessel reistered to harvest *Paralomis multispina* from the Eastern Aleutian District during the 1995 season. This vessel fished for *P. multispina* as incidental to *Chionoecetes tanneri.* Catch information is confidential.

Table 4-1. Historic Dutch Harbor, Area O, brown king crab catch, 1981/82-1995.

Season	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	CPUE[c]	Percent Oldshell	Average Weight[b]	Average Length[d]	Deadloss[b]
1981/82	6	16	22,666	115,715	2,906	8	3.8	5.1	158.1	8,752
1982/83	49	136	227,471	1,184,971	29,369	8	3.9	5.21	58.1	47,479
1983/84	47	132	328,353	1,810,973	29,595	11	NA	5.5	NA	45,268
1984[e]	13	67	327,440	1,521,142	24,044	14	NA	4.6	161.2	70,362
1985	13	67	410,977	1,968,213	34,287	12	16.0	4.7	155.7	38,663
1986	17	71	400,389	1,869,180	37,585	11	-	4.7	NA	9,510
1987	22	77	299,734	1,383,198	43,017	7	25.0	4.6	149.6	24,210
1988[f]	21	57	323,695	1,545,113	40,869	8	23.0	4.8	154.3	22,960
1989/90	13	70	424,067	1,852,249	43,345	10	30.0	4.4	150.9	17,421
1990/91	16	68	395,502	1,718,848	54,618	7	3.0	4.3	147.5	42,800
1991/92	11	50	335,647	1,447,732	40,604	8	4.0	4.3	147.9	45,100
1992/93	10	44	330,159	1,357,048	37,718	9	4.0	4.3	147.8	37,200
1993/94	4	14	217,788	915,460	22,490	10	NA	4.2	NA	7,324
1994	14	45	384,353	1,750,267	67,537	6	NA	4.6	NA	29,908
1995	17	42	431,867	1,993,980	65,030	6	NA	4.6	NA	14,676

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]In millimeters.
[e]Six inch permit season opened July 1.
[f]September 1 established as season opening date.

Table 4-2. Historic Dutch Harbor brown king crab economic performance, 1981/82-1995.

		Number of		Number of Pots		Value		Season Length	
Year	Total[a]	Vessels	Landings	Registered	Pulled	Exvessel	Total[b]	Days	Dates
1981/82	0.1	6	16	-0-[c]	2,906	$ 2.05	$ 0.2	75	11/01-01/15
1982/83	1.1	49	136	-0-[c]	29,369	$ 3.00	$ 3.3	105	11/01-02/15
1983/84	1.8	47	132	4,514	29,595	$ 3.05	$ 5.5	105	11/01-02/15
1984/85	1.5	13	67	1,394	24,044	$ 1.35	$ 2.0	229	07/01-02/15
1985	1.9	13	67	1,479	34,287	$ 2.00	$ 3.8	121	07/01-10/31
1986	1.8	17	71	1,575	37,585	$ 2.85	$ 5.1	182	07/01-12/31
1987	1.4	22	77	3,591	43,017	$ 2.85	$ 4.0	62	07/01-09/02
1988	1.5	21	57	4,215	40,869	$ 3.00	$ 4.5	93	09/01-12/04
1989	1.8	13	70	5,635	43,345	$ 3.50	$ 6.3	104	09/01-12/15
1990	1.7	16	68	5,225	54,618	$ 3.00	$ 5.1	68	09/01-11/09
1991	1.4	11	50	3,760	40,604	$ 2.00	$ 2.8	74	09/01-11/15
1992	1.3	10	44	4,222	37,718	$ 2.50	$ 3.3	76	09/01-11/17
1993/94	.9	4	14	2,334	22,490	$ 2.15	$ 1.9	212	09/01-03/31
1994	1.8	14	45	7,378	67,537	$ 4.00	$ 6.9	57	09/01-10/28
1995	1.9	17	42	10,325	65,030	$ 2.60	$ 5.0	38	09/01-10/09

[a] Millions of pounds, deadloss not included.
[b] Millions of dollars.
[c] Incidental catches to red king crab fishery.

Table 4-3. Dutch Harbor brown king crab catch by month, 1995.

Month	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	Average CPUE[c]	Dead-loss[b]
Sept.	16	28	380,079	1,607,730	49,858	4.6	7	51,246
Oct.	10	14	81,788	386,250	15,172	4.7	5	15,781
Season Total	17	42	431,867	1,993,980	65,030	4.6	6	67,027

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.

Table 4-4. Dutch Harbor brown king crab by statistical area, 1995.

Stat Area	Number of Landings	Number of Crab	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead-loss[b]
685303	5	2,390	12,024	772	5.0	3	54
685304	10	9,366	45,346	4,884	4.8	2	164
695232	8	28,010	128,272	4,502	4.6	6	2,089
695301	17	43,708	197,920	7,191	4.5	6	5,037
695302	6	10,722	49,747	1,714	4.6	6	847
705200	13	80,995	366,676	13,647	4.5	6	15,733
705232	25	177,837	825,660	19,394	4.6	9	29,330
705233	6	10,092	45,821	1,083	4.5	9	1,300
705300	13	53,267	245,633	8,026	4.6	7	6,790
Others	12	15,480	76,208	3,817	4.9	4	5,659
TOTAL	42	431,867	1,993,980	65,030	4.6	7	67,027

[a]Deadloss included.
[b]In Pounds.
[c]Defined as catch per pot pull.

Table 4-5. Dutch Harbor, Area O, historic red king crab catch, 1968/69-1994/95.

Season	Date Opened	Date Closed	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Size[d]	Price/ Pound
1968/69	01/01[e]	03/15	NA	NA	NA	11,300,000	NA	NA	NA	7.0	NA
1969/70	09/15	02/15	41	375	NA	8,950,000	72,683	NA	NA	7.0	NA
1970/71	09/15	01/10	32	268	NA	9,652,000	56,198	NA	NA	7.0	NA
1971/72	09/15	10/23	32	210	1,447,692	9,391,615	31,531	6.5	46	6.5	NA
1973/74	11/01	11/24	56	290	1,780,673	12,722,696	41,840	7.1	43	6.5	$0.65
1974/75	11/01	01/14	87	372	1,812,647	13,991,129	71,821	7.7	25	6.5	$0.37
1975/76	11/01	01/10	79	369	2,147,350	15,906,666	86,874	7.4	25	6.5	$0.42
1976/77	11/01	12/07	72	226	1,273,298	9,367,965	65,796	7.4	10	6.5	$0.64
	12/13	01/13	38	61	86,619	830,458	17,298	9.6	5	8.0	$0.79
1977/78	09/15	12/08	33	227	539,656	3,658,860	46,617	6.8	12	6.5	$0.99
	12/08	01/05	6	7	3,096	25,557	812	8.3	4	7.5	$1.35
1978/79	09/10	11/20	60	300	1,233,758	6,824,793	51,783	5.5	24	6.5	$1.35
1979/80	09/10	01/10	104	542	2,551,116	15,010,874	120,554	5.9	21	6.5	$0.90
1980/81	11/01	01/12	114	830	2,772,287	17,660,642	231,607	6.4	12	6.5	$1.02
	01/15	02/15	54	120	182,349	1,392,923	30,000	7.6	6	7.5	$1.03
1981/82	11/01	02/15	92	683	741,966	5,155,345	220,087	6.9	3	6.5	$2.30
1982/83	11/01	01/15	81	278	64,380	431,179	72,924	6.7	1	6.5	$3.43
1983/84	through 1995/96				F I S H E R Y C L O S E D						

[a]Includes deadloss

[b]In pounds.

[c]Defined as catch per pot pull.

[d]Minimum legal size in inches.

[e]Prior to 1968/69 fishery was open 12 months/year. 1968/69 season ran 1-1-68 to 3-15-69.

Table 4-6. Eastern Aleutian District historic *Chionoecetes bairdi* fishery statistics[a], 1973/74-1995.

Season	Date Opened	Date Closed	Number of Vessels	Number of Landings	Crab[b]	Harvest[b,c]	Pots Pulled	Average Weight[c]	CPUE[d]	Price per Pound
1973/74	10/1	7/31	6	14	210,539	498,836	NR[e]	2.4	60	$ .NR[e]
1974/75	1/18	10/15			Confidential					
1975/76	1/20	10/15	8	13	219,166	534,295	4,646	2.4	47	$0.20
1976/77	11/7	6/15	12	35	544,755	1,239,569	9,640	2.3	57	$0.30
1977/78	11/1	6/15	15	198	1,104,631	2,494,631	29,855	2.3	37	$0.38
1978/79	11/1	6/15	20	174	542,081	1,280,115	18,618	2.4	20	$0.52
1979/80	11/1	6/15	18	107	352,819	886,487	18,040	2.4	20	$0.52
1981	1/15	6/15	29	119	264,238	654,514	21,771	2.4	12	$0.58
1982	2/15	6/15	31	138	332,260	739,694	30,109	2.2	11	$1.25
1983	2/15	6/15	23	107	250,774	547,830	22,168	2.1	11	$1.20
1984	2/15	6/15	16	91	104,761	239,585	11,069	2.3	9	$0.98
1985	1/15	6/15	6	56	71,918	165,529	5,620	2.3	13	$1.30
1986	1/15	6/15	9	37	73,187	167,339	10,244	2.3	7	$1.50
1987	1/15	6/15	7	63	71,338	160,292	5,294	2.2	13	$2.00
1988	1/15	4/10	19	130	129,468	309,918	11,011	2.4	12	$2.10
1989	1/15	5/07	12	109	144,746	326,396	14,685	2.2	10	$2.90
1990	1/15	4/09	10	75	73,269	171,785	6,858	2.3	11	$1.85
1991	1/15	3/31	5	27	21,511	50,038	1,849	2.3	12	$1.25
1992	1/15	3/31	6	29	42,096	98,703	2,963	2.3	14	$1.75
1993	1/15	3/31	7	34	51,441	118,609	3,530	2.3	15	$1.70
1994	1/15	3/31	8	120	71,962	166,545	6,323	2.3	11	$2.35
1995				NO COMMERCIAL FISHERY						

[a]5½ inch minimum carapace width.
[b]Deadloss included beginning 1980.
[c]In pounds.
[d]Defined as catch per pot pull.
[e]No Record.

Table 4-7. Eastern Aleutian *Chionoecetes tanneri* Tanner crab catch, 1993-1995.

Year	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Lifted	Average Weight[b]	CPUE[c]	Dead-loss[b]
1993				C O N F I D E N T I A L				
1994	3	27	426,230	759,239	38,106	1.8	11	19,474
1995	7	51	494,522	850,427	75,259	1.7	6	28,338

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per unit effort.

Table 4-8. Aleutian District historic Dungeness crab catch statistics, 1974-1995.

Year	Season Dates	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Price Per Pound
1974	1-1/12-31			Confidential					
1975	1-1/12-31			Confidential					
1976	5-1/12-31			N O C A T C H					
1977	5-1/12-31			N O C A T C H					
1978	5-1/12-31			Confidential					
1979	5-1/12-31			Confidential					
1980	5-1/12-31			N O C A T C H					
1981	5-1/12-31			N O C A T C H					
1982/83	5-1/02-01			Confidential					
1983/84	5-1/02-01			Confidential					
1984/85	5-1/02-01	4	50	40,128	91,739	13,555	2.3	3	$1.15 to $1.50
1985/86	5-1/02-01			Confidential					
1986	5-1/12-31			Confidential					
1987	5-1/12-31	5	43	13,247	26,627	2,987	2.0	4	$0.95
1988	5-1/12-31	6	45	10,814	22,634	2,581	2.1	4	$0.90
1989	5-1/12-31	4	31	5,165	11,124	2,078	2.1	2	$0.90
1990	5-1/12-31	3	11	8,379	17,365	1,345	2.1	6	$0.90
1991	5-1/12-31	4	14	3,654	7,412	732	2.0	5	$1.25
1992	5-1/12-31	4	13	2,854	5,649	555	2.0	5	$0.80
1993	5-1/12-31	5	12	3,448	7,531	797	2.2	4	$0.78
1994	5-1/01-01		N O	R E P O R T E D	C A T C H				
1995			N O	R E P O R T E D	C A T C H				

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.

Table 4-9. Aleutian District historical trawl shrimp fishery statistics, 1972-1995.

Season	Date Opened	Date Closed	Number of Vessels	Number of Landings	Number of Tows	Harvest[a]	Price/ Pound
1972	1/72	12/72	C O N F I D E N T I A L				
1973	1/73	12/73	C O N F I D E N T I A L				
1974	1/74	12/74	7	88	721	5,749,407	NR
1975	1/75	12/75				C O N F I D E N T I A L	
1976	1/76	12/76	8	66	689	3,670,609	$ .07
1977/78	2/77	3/78	7	93	1,372	6,800,393	$ .12
1978/79	4/78	3/79	7	74	1,007	4,946,350	$ .15
1979/80	4/79	2/80	7	68	799	3,292,049	$ .20
1980	3/80	12/80	4	60	711	2,454,829	$ .23
1981	3/81	12/81	6	45	551	2,185,326	$ .22
1982/8[b]	5/82	6/83				C O N F I D E N T I A L	
1983			N O R E P O R T E D C A T C H				
1984			N O R E P O R T E D C A T C H				
1985			N O R E P O R T E D C A T C H				
1986			N O R E P O R T E D C A T C H				
1987			N O R E P O R T E D C A T C H				
1988			N O R E P O R T E D C A T C H				
1989			N O R E P O R T E D C A T C H				
1990			N O R E P O R T E D C A T C H				
1991			N O R E P O R T E D C A T C H				
1992	1/92	12/92	4	6	94	72,133	NR
1993			N O R E P O R T E D C A T C H				
1994			N O R E P O R T E D C A T C H				
1995			N O R E P O R T E D C A T C H				

[a]In pounds.
[b]Catch occurred May and June 1982.

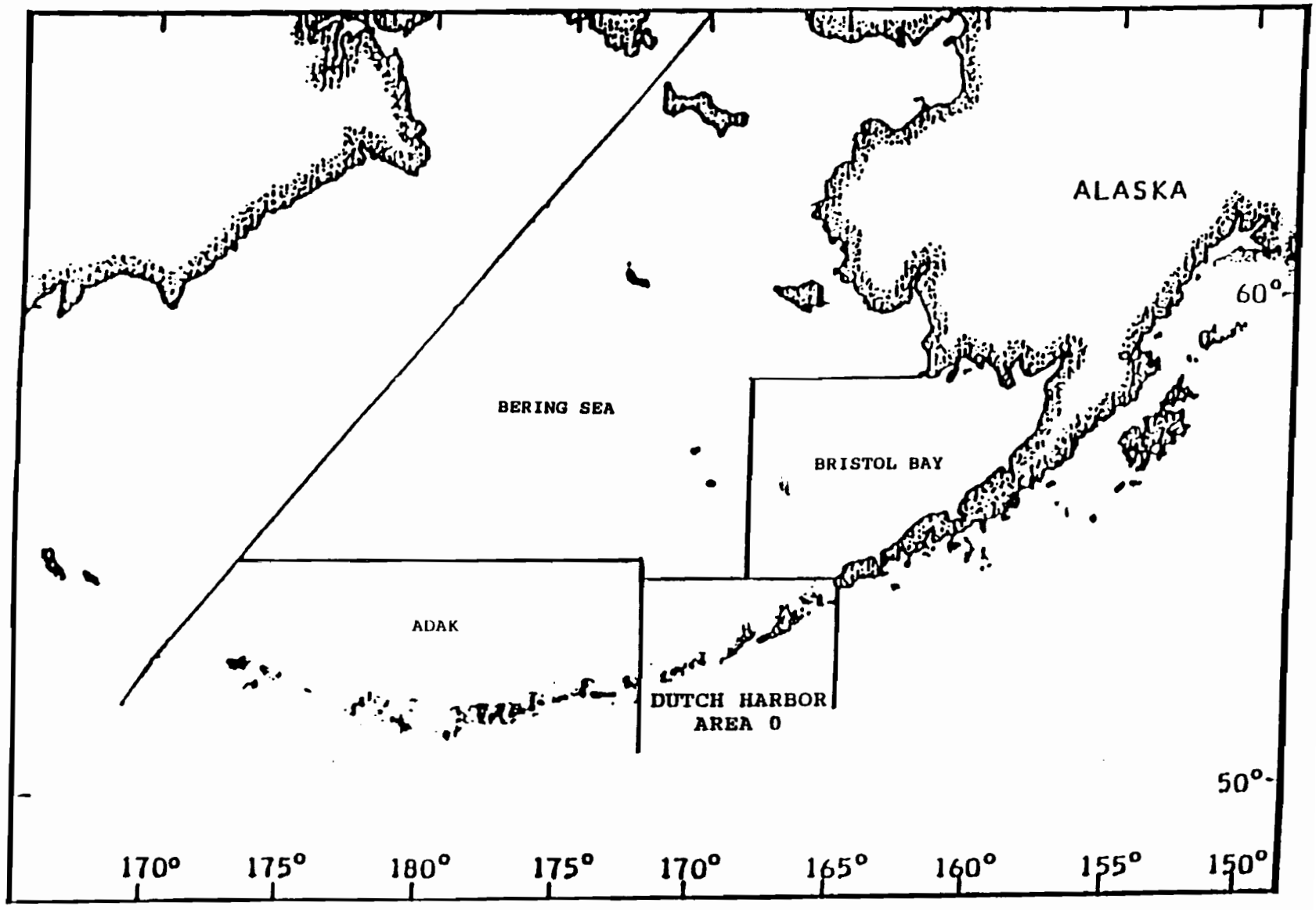

Figure 4-1. Dutch Harbor, Area 0, king crab area.

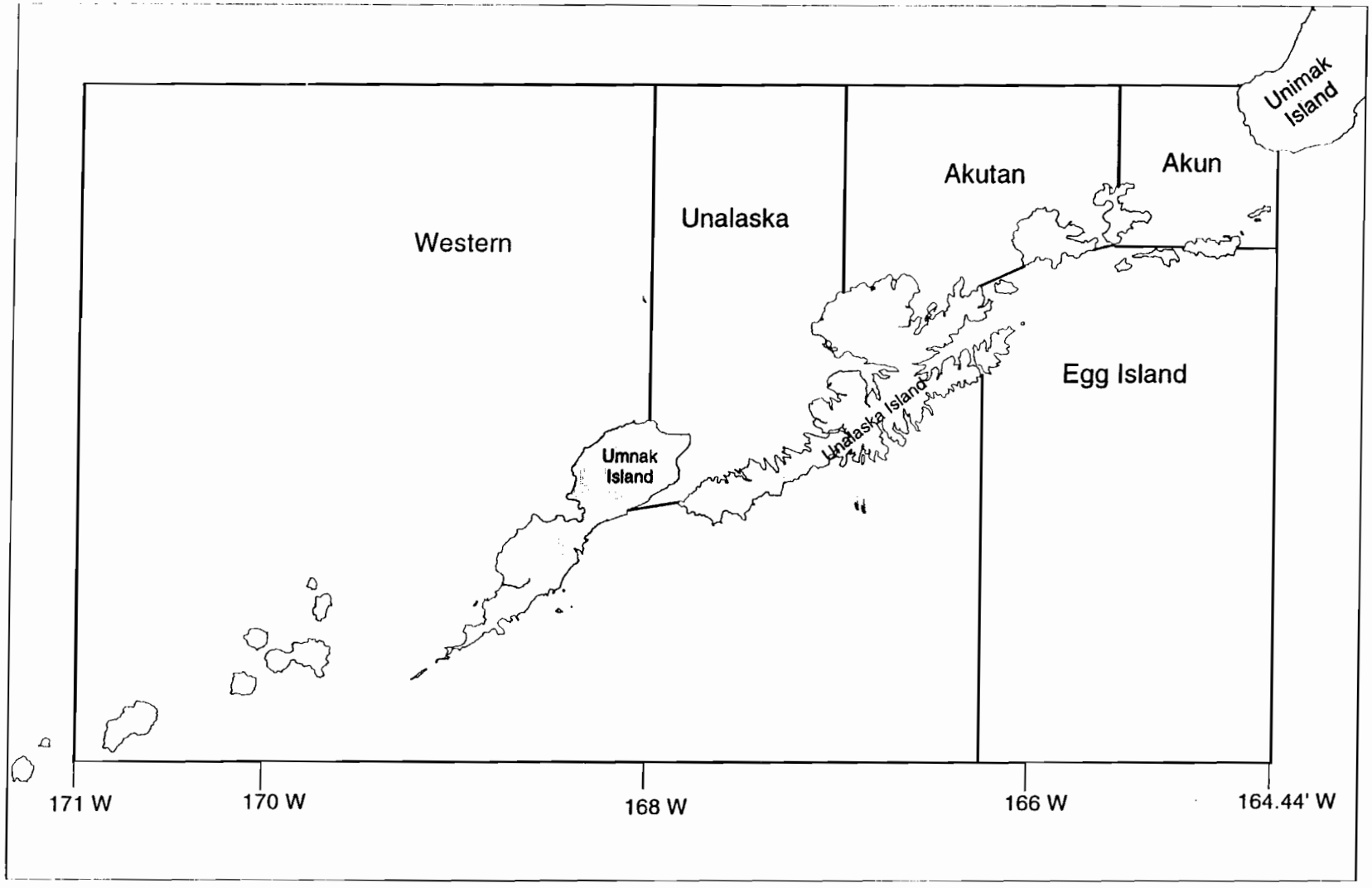

Figure 4-2. Dutch Harbor, Area O, king crab districts.

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE WESTERN ALEUTIAN AREA

By

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March 1997

ADAK BROWN KING CRAB

Introduction

Adak, Area R, has as its eastern boundary 171° West longitude, as its western boundary the U.S./Russian Convention Line of 1867, and as its northern boundary 55°30' North latitude (Figure 5-1).

Historic Background

The Adak brown king crab fishery began during the 1975/76 season when one vessel made one delivery containing this species. Occurring incidentally to the red king crab fishery, catches of brown crab were low during the 1975/76 to 1980/81 seasons (Table 5-1).

Fishermen began to target on brown king crab for the first time during the 1981/82 season when 14 vessels made 76 landings totaling 1.2 million pounds. When this fishery began, most of the catch came from the North Amlia and Petrel Bank Districts. Recently the Western Aleutian District has become a significant producer as well (Figure 5-2). The other three districts in Area R produce much lower catches. This is due to the lack of large inter-island passes where brown king crab are most numerous. In July 1985, the minimum legal size was reduced from 6.5 to 6.0 inches across the carapace (Table 5-2).

1994/95 Fishery

The 1994/95 Adak brown king crab fishery opened on November 1, concurrent with red king and Tanner crab fisheries in that area. As outlined in the section on Adak red king crab, pre-season registration for the Area R brown king crab fishery was required for the 1994/95 season due to anticipated high levels of participation.

A total of 88 vessels pre-registered to fish for Adak brown king crab. Of those, 27 catcher and 2 catcher processor vessels received tank inspections and entered the fishery on November 1. Of the 29 vessels receiving tank inspections for Adak brown crab, 22 were also registered to participate in the Adak red king crab fishery. One floating processor registered and processed both red and brown crab on the grounds during the season.

A total of 34 vessels registered to fish Adak brown king crab during the 1994/95 season, similar to the 21 vessels registered for the prior year's fishery. A total of 247 landings were made in 1994/95 for a total harvest of 6.4 million pounds. This compares to 147 landings and a harvest of 4.6 million pounds recorded during the 1993/94 fishery.

Average weight of crab harvested during the 1994/95 season was 4.1 pounds. This is similar to the 4.2 pound average seen in the 1993/94 fishery. For the second consecutive year there was a

significant increase in the number of pots pulled; 165,503 in 1992/93, 212,164 in 1993/94, and 319,006 in 1994/95. Catch per pot during the 1994/95 season was at a record low of 5 crabs per pot.

Average price paid for Adak brown king crab for the 1994/95 season was $3.33 per pound. This is higher than the $2.50 average price paid during the 1993/94 season. Total fishery value for the 1994/95 season was 20.3 million, approximately $10 million greater than the prior year (Table 5-3).

Although effort occurred throughout the entire registration area during the 1994/95 fishery (Table 5-4), the majority of the catch came from the Amukta and Seguam Pass areas in the eastern portion of the registration area. Additional harvest was reported from the western portion of the registration area in the Petrel Bank, around Semisopochnoi Island, in waters between Kiska and Attu Islands, and as far west as the Stalemate Bank northwest of Attu. The majority of effort for the 1994/95 season took place during April through August 15 (Table 5-5). Unlike previous years, a greater effort was seen throughout November to January than in previous years due to the closure of the Bristol Bay red king crab fishery that usually opens November 1.

1995/96 Fishery

The 1995/96 Adak brown king crab fishery opened on November 1. A total of 11 vessels obtained observers and received tank inspections. This fishery, which has a regulatory closure date of August 15, is on-going at this time. To date a total of 928,848 pounds have been landed in 28 deliveries. Catches have averaged approximately 4 crab per pot, slightly lower than the 5 crab per pot average observed in the 1994/95 fishery.

Weekly observer reports indicate most vessels ceased operation for the holiday season. A significant portion of the effort in this fishery is expected to shift into the snow crab fishery in the Bering Sea, which opens on January 15. A major shift of effort back to the Adak brown king crab fishery is expected at the close of the snow crab fishery in late February or early March. To date observers, assigned to all vessels participating in this fishery, have examined the contents of approximately 4,000 pots directed at brown king crab.

Status of Stocks

The Adak brown king crab stocks were surveyed in a small portion of this area in 1991. No population estimates are available for this area as a result of stock assessment surveys. The fishery is managed based on size, sex and season. No harvest guideline is in effect for this fishery at this time.

Limited additional information has being collected through onboard fisheries observers, required on all processing vessels in this area since 1988. However, the number of catcher processors participating in this fishery has steadily declined. As a result of this reduction in the number of vessels carrying observers in recent years, and the corresponding lack of biological information

being collected from this area which is not regularly surveyed, the Board of Fisheries implemented regulation requiring observers on all vessels beginning with the November 1 start up of the 1995/96 Adak brown king crab fishery. Information on the size, sex and species composition of both the retained and non-retained catch will yield area-specific information which can be used to estimate population abundance and development management measures necessary to maintain the long term health of this stock.

ADAK RED KING CRAB

Introduction

Adak, Area R, is comprised of all waters west of 171° West longitude, south of 55° 30' North latitude and east of the U.S. - Russian Convention Line of 1867.

Historic Background

The Adak red king crab fishery began in 1961 when four vessels harvested two million pounds. As the fleet exploited previously unfished areas, catches increased rapidly to a peak of 21 million pounds by the 1964/65 season (Table 5-6). For a short time the expanding Dutch Harbor king crab fishery diverted effort, and Area R catches dropped to 6 million pounds by the 1966/67 season.

From 1967/68 to the 1972/73 seasons, catches were relatively stable at 14 million to 19 million pounds. The large catches were maintained by several years of strong recruitment and by the exploitation of populations discovered east of Adak Island. In addition to the eastward exploration, some vessels moved into the waters of the Petrel Banks, Amchitka Islands and other westward islands creating the separate Western Aleutians, Area S, fishery in 1967/68. The catch in Area S was small, and in 1978 management was simplified as Area S was changed to the Petrel Bank and Western Aleutian Districts of Area R.

The harvest declined sharply after the 1972/73 season. At the Alaska Board of Fisheries recommendation, the department closed the fishery prior to the 1976/77 season. Since that time indications of recovery have been slight. ADF&G surveys conducted in 1975, 1976, and 1977 concluded that several years of poor recruitment to legal size was the cause of the decline. A shell disease and an unusually high natural mortality in the North Amlia District was also blamed for the decreased populations.

The harvest guideline range for this fishery was set after the 1976/77 season at 0.5 to 3.0 million pounds. By regulation the season extends to February 15 unless closed earlier by emergency order. Three of the past 10 seasons have been closed prior to the February 15 regulatory closure (Table 5-7).

Historically the character of this fishery has been one of intermittent participation of low intensity. The majority of participants move into this fishery for short periods, normally prior to or following other major fisheries such as Bristol Bay red king crab or Bering Sea Tanner crab. Recently the catch came almost exclusively from the area around Semisopochnoi Island in the Petrel Banks District.

Onboard fisheries observers were required on processing vessels (catcher-processors and floating processors). Since imposition of these requirements in 1988, the number of processing vessels participating in this fishery has dropped from 11 vessels in 1988/89 to one vessel in the 1993/94 fishery (Table 5-7). As a result, very little information is available on fishery bycatch or in-season catch reports from the fishing grounds.

1994/95 Fishery

The Adak Area R red king crab fishery opened on November 1. The Adak brown king crab, Western Aleutians *Chionocetes bairdi* Tanner crab and the Bering Sea *C. bairdi* Tanner crab fisheries opened on November 1 also. The red king crab fishery in Bristol Bay, which normally opens on November 1, remained closed for the 1994 season due to insufficient female crab abundance. In the absence of a red king crab fishery in Bristol Bay and reductions in the amount of *C. bairdi* Tanner crab available for harvest in the Bering Sea, effort in the Adak king crab fisheries was expected to increase dramatically for the 1994/95 season.

As outlined in the section on Adak brown king crab, preseason registration for the Area R brown king crab fishery was required for the 1994/95 season due to anticipated high levels of participation. A total 93 vessels pre-registered to participate in the Adak red king crab fishery. Of these, 70 also pre-registered for the Adak brown king crab fishery. Pre-registration was required for all vessels intending to participate at any time throughout the course of either the red or brown king crab fishery. Consequently, many vessels which did not intend to fish for king crab in the Adak area until after the Bering Sea *C. bairdi* fishery, also pre-registered.

A total of 29 vessels, including two catcher-processors, received tank inspections for the red king crab fishery beginning 72 hours prior to the start of the fishery. Of these, 22 were also registered to harvest brown king crab. As in past years, tank inspections were available in Dutch Harbor only.

The department solicited volunteers for daily catch reporting in order to track in season harvest. This season's fishery was expected to progress quickly due to the relatively large number of participants. A total of 20 catcher vessels volunteered to report via single sideband radio or marine satellite (MARSAT) telex on a daily basis. In addition, the observers on board the two catcher-processors were required to report daily.

Fishery performance for the first two weeks of the 1994/95 season averaged less than 1 crab per pot. This compares to an average catch in excess of 16 crab per pot for the first two weeks of the 1992/93 and 1993/94 seasons. Based on continued poor fishery performance, the fishery was

closed after less than four weeks on November 28. The 1994/95 season was the shortest on record; a duration of 27 days.

Total harvest for the 1994/95 season was 196,967 pounds (Table 5-8), a dramatic decrease from the 698,077 pounds harvested during the 1993/94 season and well below the 1.5 million pound harvest guideline. A total of 20 vessels made 31 landings during the 1994/95 fishery, an increase over the 21 landings made by the 12 vessels which participated in the 1993/94 fishery.

Daily observer radio reports indicated performance of the 1994/95 fishery at critically low levels. However, due to limited and inconsistent daily catch reporting on the part of volunteer catcher vessels (less than 25% of volunteer vessels reported daily), information sufficient to fully assess the performance of the fishery was not available until the third week of the season. This information was obtained from daily reports from onboard observers and weekly processor catch reports.

The exvessel price of the 1994/95 fishery was $5.50 per pound, up from the prior season value of $3.87 per pound and the highest on record for Adak red king crab. Total value for the 1994/95 fishery was $1.1 million dollars, approximately 41% of the value of the 1993/94 fishery. The high exvessel price for the 1994/95 fishery is largely attributed to the absence of a red king crab fishery in Bristol Bay for the 1994/95 season.

Catches came exclusively from the Petrel Bank District around Semisopochnoi Island. Average weight of crab harvested during the 1994/95 fishery was 6.5 pounds; considerable higher than the prior season average of 5.8 pounds. The 1994/95 season average weight is the highest average weight since the 1984/85 season and may reflect a relative decline in recruit crab abundance.

1995/96 Fishery

The 1995/96 Adak red king crab fishery opened on November 1. A total of 11 vessels obtained observers and received tank inspections. Four vessels delivered red king crab by the regulatory closure date of February 15. A total of 38,941 pounds were landed in 12 deliveries. Catches have averaged approximately three crab per pot, similar to the low catches observed in the 1994/95 season. The harvest occurred primarily in November (Table 5-9). Crab were harvested from 19 statistical areas (Table 5-10) between 176° West and 170° East longitude. For the first time in several years less than half of the catch came from the Petrel Banks District.

Weekly observer reports indicate very little effort was directed at red king crab. All vessels registered for this fishery were also registered for, and targeting on, Adak brown king crab. Observers collected pot samples from 2,080 pots directed at red king crab and approximately 4,000 directed at brown king crab.

Stock Status

Adak red king crab stocks have not been surveyed since 1977. Compared to historic levels, the population appears to be severely depressed. Observer coverage on all processing vessels on the fishing grounds since 1988 has provided some biological information on these stocks. However, the number of observers onboard catcher-processors has declined since 1988. Consequently, in recent years little biological information has been available on Adak red king crab. Observer coverage on all vessels began in November 1995. This program has started yielding information necessary to properly assess and manage Adak red king crab.

ADAK SCARLET KING CRAB

Introduction

Adak, Area R, is comprised of all continental shelf waters west of 171° West longitude, south of 55° 30' North latitude and east of the U.S. - Russian Convention Line of 1867.

Historic Background

Scarlet king crab, *Lithodes couesi*, are harvested under authority of a special permit according to 5AAC 35.082. *L. couesi* have historically been landed from the Adak Management Area as bycatch in the brown king crab fishery. Information regarding vessel effort and the number of landings prior to 1994 were below the minimum to allow public dissemination.

1995 Fishery

A total of 12 vessels registered for *L. couesi* during the 1995 season. Five of the vessels also registered for *Chionecetes. tanneri* and seven for brown king crab. Six vessels made 18 landings for a total harvest of 49,126 pounds. The average weight was 2.5 pounds with a catch rate (CPUE) of 1.2 crab per pot. Even though *L. couesi* were caught as bycatch in both the *C. tanneri* and brown crab fisheries, one vessel targeted on this crab species for at least one trip.

Stock Status

There are no population estimates made for Adak *Lithodes couesi.* However, observers have been required on all vessels targeting king crab and have collected information on size, sex and species composition of retained and non-retained catch. This information is being analyzed and will be used to develop management measures for these stocks.

WESTERN ALEUTIAN DISTRICT TANNER CRAB

Introduction

The Western Aleutian District of Statistical Area J includes all waters west of 172° West longitude and south of 54° 36' North latitude (Figure 5-3).

Historic Background

Tanner crab, *Chionoecetes bairdi,* from the Western Aleutian District have generally been harvested incidental to Adak red king crab. Since the late 1970's, the harvest has ranged from a high of over 800,000 pounds in 1981/82 down to the catch in 1991/92 of less than 8,000 pounds (Table 5-11). During the 1993/94 and 1994/95 fishing seasons 8 and 10 vessels registered for the fishery, respectively. However, no deliveries were made.

1995/96 Fishery

The 1995 fishery opened concurrent with the red and brown king crab fisheries in the Adak king crab management Area R, on November 1. Only one vessel registered for Western Aleutian Tanner crab. This vessel also registered for red and brown king crab. As of February 22 no deliveries of Tanner crab have been made. The season remains open, however at this time there are no validly registered vessels fishing. The season will close by regulation on March 31, 1996.

Status of Stocks

No stock assessment surveys are conducted for *C. bairdi* Tanner crab in the Western Aleutian District, consequently no population estimates are available.

WESTERN ALEUTIAN *CHIONOECETES TANNER*

Historic Background

The first reported landings of *Chionoecetes tanneri* Tanner crab from the Western Aleutian Islands Tanner crab Management Area occurred in the late 1970s incidental to the developing brown king crab fishery in the Adak king crab Management Area. Prior to 1993 no market existed for *C. tanneri* and few, if any, were sold commercially. No effort was recorded from the Western Aleutian District in 1993. Also in 1993, the department restricted the harvest to males five inches or greater in carapace width.

To collect biological information on *C. tanneri* crab the department implemented 100% observer coverage in 1994, as allowed by the permit provisions provided in 5 AAC 35.082. During that year six vessels registered to fish, however only two made deliveries. One vessel directed fishing effort for *C. tanneri* crab for a portion of the season, the other made deliveries only incidental to the Adak brown king crab fishery.

1995 Fishery

Catch records indicate a total of six vessels made 18 landings for a harvest of 145,795 pounds of *C. tanneri* in 1995. The average weight of crab retained in 1995 was 1.9 pounds, with an overall catch per unit effort (CPUE) of four crab per pot (Table 5-12).

Directed fishing effort for *C. tanneri* crab by three vessels occurred from April through June. The remaining effort was as bycatch in the Adak brown king crab fishery. Fishing effort in the directed fishery for *C. tanneri* was spread out over the Western Aleutian District from Amukta Pass to the Petrel Banks. Vessels fished an average of 498 pots and made 16,699 pot pulls during 1995. The average exvessel price for *C. tanneri* in 1995 was $1.52 per pound for a total fishery value in excess of $194,000 (Table 5-13).

Status of Stocks

No stock assessment surveys are conducted for *C. tanneri* Tanner crab, consequently no population estimates are available. Onboard observers have been required on all vessels targeting *C. tanneri* since 1994. This program has yielded information on size, sex and species composition of the non-retained catch necessary to manage these stocks.

ADAK SCALLOPS

Introduction

Scallop registration area R is statistical area R as decribed in 5 AAC 34.700. Statistical area R has its eastern boundary at 171° W. longitude, its western boundary at the U.S.-Russian Convention line of 1867, and its northern boundary at 55° 30' N. latitude.

Historic Background

Department of Fish and Game commercial catch records indicate scallops were first harvested from the Adak Management Area in February and March of 1991 when the Department issued a permit to a scallop vessel to fish for *Chlamys* or calico scallops with modified dredges. The vessel was required to carry a certified shellfish observer. Because of high red king crab bycatch,

the Petrel Bank Area was closed to scallop fishing by emergency order. In 1992 both pink and weathervane scallops were harvested from the Adak scallop registration area. No permits were issued or catches reported again until 1995. Because there has always been less than three vessels participating in this fishery all catch data are confidential.

In May of 1993 the commissioner of Fish and Game declared the state's scallop fisheries a "High Impact Emerging Fishery" and established a new Fisheries Management Plan (FMP). The plan requires 100% observer coverage in all scallop fisheries within the state.

Because of unanticipated fishing for scallops in the exclusive economic zone (EEZ) by vessels outside the jurisdiction of Alaska State regulations, an emergency rule was issued by the National Marine Fisheries Service (NMFS) on February 23, 1995 which closed scallop fisheries in the EEZ off the coast of Alaska outside the three mile state waters boundary.

1995 Fishery

The Adak registration area scallop fishery opened on July 1. No guideline harvest or bycatch rates are established for scallop harvest in the Adak area. Harvest and bycatch was monitored in season. Because less than three vessels fished scallops during 1995 all catch and delivery data are confidential.

WESTERN ALEUTIANS MISCELLANEOUS SHELLFISH

Introduction

Adak, Area R, is comprised of all continental shelf waters west of 171° West longitude, south of 55° 30' North latitude and east of the U.S. - Russian Convention Line of 1867.

Paralomis multspina

One vessel registered and harvested *Paralomis multispina* as bycatch in the Adak *C. tanneri* fishery. Because fewer than three vessels participated in the fishery catch data are confidential.

Table 5-1. Adak, Area R, historic brown king crab catch statistics, 1975/76-1995/96.

Season	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Deadloss[b]
1975/76				CONFIDENTIAL				
1976/77				CONFIDENTIAL				
1977/78				CONFIDENTIAL				
1978/79				NO REPORTED CATCH				
1979/80				CONFIDENTIAL				
1980/81	4	4	11,523	58,914	700	5.1	17	5,000
1981/82	14	76	217,700	1,194,046	24,627	5.5	9	22,064
1982/83	99	501	1,509,001	8,006,274	150,103	5.3	10	220,743
1983/84	157	1,002	1,534,909	8,128,029	226,798	5.3	7	171,021
1984/85	38	85	643,597	3,180,095	64,777	4.9	10	125,073
1985/86[d]	49	386	2,052,048	11,124,759	202,401	4.5	12	5,304
1986/87	62	525	2,923,947	12,798,004	392,185	4.4	7	276,736
1987/88	46	386	1,908,989	8,001,177	267,705	4.2	7	165,415
1988/89	74	455	2,165,508	9,080,196	280,732	4.2	8	122,251
1989/90	64	505	2,520,786	10,162,400	324,153	4.0	8	100,724
1990/91[e]	13	167	1,312,116	5,250,687	160,960	4.0	8	176,583
1991/92	16	206	1,511,751	6,254,409	192,949	4.1	8	96,848
1992/93	18	130	1,198,169	4,916,149	165,503	4.1	7	104,215
1993/94	21	147	1,393,742	4,635,683	212,164	4.2	6	165,358
1994/95	34	247	1,539,866	6,378,030	319,006	4.1	5	242,065
1995/96[f]	14	34	271,022	1,130,035	46,174	4.2	6	69,557

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Size limit reduced from 6.5 to 6 inches.
[e]Partial closure August 7.
[f]Preliminary data, fishery ongoing.

Table 5-2. Adak brown king crab harvest composition by fishing seasons, 1975/76-1995/96.

Season	Season Opened	Season Closed	Harvest[a,b]	Percent New Shell	Average Length[c]	Minimum Size[d]
1975/76	11/01	12/18	CONFIDENTIAL	NA	NA	6.5
1976/77	01/07	04/15	CONFIDENTIAL	NA	NA	6.5
1977/78	02/20	03/20	CONFIDENTIAL	NA	NA	6.5
1978/79	02/21	10/01	0	NA	NA	6.5
1979/80	01/15	04/01	CONFIDENTIAL	NA	NA	6.5
1980/81	01/15	03/28	58,914	97.6	158.4	6.5
1981/82	11/01	06/15	1,194,046	90.5	159.6	6.5
1982/83	11/01	04/15	8,006,274	92.4	158.2	6.5
1983/84	11/10	04/15	8,128,029	87.8	NA	6.5
1984/85	11/10	07/08	3,180,095	87.5	156.7	6.5
1985/86	11/01	08/15	11,124,759	86.3	151.3	6.0
1986/87	11/01	08/15	12,798,004	69.1	149.5	6.0
1987/88	11/01	08/15	8,001,177	91.7	146.9	6.0
1988/89	11/01	08/15	9,080,196	91.2	149.1	6.0
1989/90	11/01	08/15	10,162,400	95.3	148.5	6.0
1990/91[e]	11/01	08/15	5,250,687	91.5	144.5	6.0
1991/92	11/01	08/15	6,254,409	94.4	144.7	6.0
1992/93	11/01	08/15	4,916,149	93.5	147.0	6.0
1993/94	11/01	08/15	4,635,683	95.4	147.8	6.0
1994/95	11/01	08/15	6,378,030	92.9	149.5	6.0
1995/96[d]	11/01	-	1,130,035	NA	NA	6.0

[a]Deadloss included.
[b]In pounds.
[c]Carapace length (millimeters)
[d]Carapace width (inches)
[e]Partial closure August 7.
[d]Preliminary data, fishery ongoing

Table 5-3. Historic Adak brown king crab economic performance, 1980/81-1995/96.

Year	Season Total[a]	Number of Vessels[b]	Number of CP's	Number of Landings	Number of Pots Registered	Number of Pots Pulled	Value Exvessel	Value Total[d]	Season Length Days	Season Length Dates
1980/81	0.05	4	N/A	4	581	700	$ 0.90	$ 0.05	(72)	01/15-3/28
1981/82	1.2	14	N/A	76	2,647	24,627	$ 2.06	$ 2.5	(227)	11/01-6/15
1982/83	7.8	99	N/A	501	13,111	150,103	$ 3.01	$23.5	(166)	11/01-4/15
1983/84	8.0	157	N/A	1,002	17,406	226,798	$ 2.92	$23.4	(157)	11/10-4/15
1984/85	3.1	38	N/A	85	5,270	64,777	$ 2.00	$ 6.2	(240)	11/10-7/08
1985/86	11.1	49	N/A	386	7,057	202,401	$ 2.50	$27.8	(288)	11/01-8/15
1986/87	12.5	62	N/A	325	12,958	392,185	$ 3.00	$37.5	(288)	11/01-8/15
1987/88	7.8	46	N/A	386	10,687	267,705	$ 3.00	$23.4	(289)	11/01-8/15
1988/89	9.0	74	13	455	23,627	280,732	$ 3.20	$28.8	(288)	11/01-8/15
1989/90	10.1	64	15	505	14,724	324,153	$ 3.00	$30.3	(288)	11/01-8/15
1990/91	5.3	13	6	167	7,380	160,960	$ 3.00	$15.9	(288)	11/01-8/15
1991/92	6.1	16	7	206	7,635[e]	192,949	$ 2.50	$15.2	(289)	11/01-8/15
1992/93	4.9	18	4	130	8,236[e]	165,503	$ 2.05	$10.1	(288)	11/01-8/15
1993/94	4.6	21	1	147	11,970	212,164	$ 2.50	$11.2	(288)	11/01-8/15
1994/95	6.1	34	2	247	15,604	319,006	$ 3.33	$20.3	(288)	11/01-8/15
1995/96[f]	1.1	14	1	36	8,060	46,174	$ 1.98	$ 2.2		11/01-Present

[a]Millions of pounds, deadloss not included.
[b]Includes catcher-processors.
[c]No separate registration from red king crab.
[d]Millions of dollars.
[e]Gear directed fishing on brown king crab.
[f]Preliminary data, fishery ongoing.

Table 5-4. Adak brown king crab catch by statistical area, 1994/95.

Area	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight	CPUE[c]	Dead-loss[b]
715130	4	25.363	97.712	2.328	3.8	11	3.347
715201	3	7.148	27.139	940	3.8	8	950
715202	30	143,269	573,124	17,192	4.0	8	32,162
715231	34	182,894	724,930	23,341	4.0	8	24,754
715232	8	27,522	111,462	5,240	4.0	5	11,381
725130	4	13,331	62.848	2.256	4.7	6	971
725201	27	123,022	507,346	20,046	4.1	6	19,871
725203	6	24.435	106,477	7,700	4.4	3	206
725230	19	115,912	454,620	21,324	4.0	5	14,554
735201	9	19,569	79,416	4,962	4.0	4	4,717
735230	15	39,224	155,391	11,459	4.0	3	5,902
745131	8	16,072	77,186	5,531	4.8	3	2,739
745206	3	3,751	16,282	588	4.3	6	517
765100	3	13,143	57,672	2,898	4.4	5	440
765203	3	1,160	5,184	273	4.5	4	27
775131	4	1,335	5,406	1,566	4.1	1	355
775133	5	6,961	30,754	1,507	4.4	5	1,155
775134	3	3,106	13,581	622	4.4	5	849
775135	6	5,223	22,164	1,477	4.2	4	1,012
775136	4	3,591	15,117	637	4.2	6	914
785101	3	3,046	12,542	545	4.1	6	156
785102	16	17,179	70,633	5,165	4.0	3	760
785103	7	7,549	33,083	1,465	4.4	5	1,064
785131	24	44,089	192,724	19,587	4.4	2	14,616
785135	13	15,110	64,275	2,999	4.3	5	1,727
795101	3	3,108	12,827	502	4.1	6	728
795102	9	7,797	31,167	2,492	4.0	3	2,786
795131	8	7,959	33,776	1,925	4.0	4	728
795132	16	57,792	234,078	8,933	4.0	7	11,327
795200	28	17,395	76,216	4,106	4.0	4	380
795230	15	9,967	43,428	2,019	4.3	5	212
805103	25	18,111	76,099	2,080	4.2	9	938
805131	8	5,069	20,701	377	4.1	13	133
805132	29	74,930	313,901	8,363	4.0	9	721

(Continued)

Table 5-4. (Page 2 of 2)

Stat. Area	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight	CPUE[c]	Dead-loss[b]
805201	32	30,312	126,562	4,664	4.0	7	6,152
805400	6	18,918	72,747	6,906	4.0	3	4,930
815100	11	4,631	19,566	621	4.0	8	29
815131	20	19,133	78,710	2,270	4.1	8	41
825132	10	5,149	24,925	2,525	4.8	2	667
825201	15	24,634	114,405	6,389	4.6	4	2,291
825202	4	5,873	26,107	1,381	4.5	4	1,600
835130	15	16,101	74,377	5,655	4.6	3	1,911
835200	28	64,385	299,460	19,699	4.7	3	13,842
845130	13	21,331	93,320	7,531	4.4	3	13,788
845202	25	65,083	271,780	19,410	4.2	3	11,248
855200	13	40,578	162,503	11,484	4.0	4	5,954
855231	4	18,938	68,709	3,376	4.0	6	3,452
865203	7	16,099	62,434	2,560	3.9	6	2,513
865231	3	8,568	33,928	1,114	4.0	8	804
875232	5	23,964	109,518	8,102	5.0	3	2,781
Others[d]	39	65,752	280,059	15,302	4.3	4	9,499
TOTAL	247	1,539,866	6,378,030	319,006	4.1	5	242,065

[a]Deadloss included.
[b]In Pounds.
[c]Defined as catch per pot pull.
[d]28 statistical areas.

Table 5-5. Adak brown king crab catch statistics by month, 1994/95.

Month	Number of Vessels	Number of Landings	Number of Crab	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead-loss[b]
Nov	19	24	101,434	440,611	21,811	4.3	4.5	16,575
Dec	17	28	170,463	719,877	28,692	4.2	5.5	48,329
Jan	9	15	105,248	424,267	15,077	4.0	7.0	4,330
Feb	5	8	67,158	291,542	11,378	4.3	5.5	48,329
Mar	9	11	83,571	339,387	13,555	4.0	6.0	13,267
Apr	18	31	170,332	709,260	49,298	4.2	3.5	17,979
May	23	41	261,873	1,066,258	51,270	4.1	4.9	43,197
Jun	20	31	214,877	878,772	44,342	4.1	4.8	30,290
Jul	18	37	242,615	997,643	54,066	4.1	4.4	33,607
Aug	15	21	122,359	510,413	29,717	4.2	4.0	15,791
TOTAL	34	247	1,539,866	6,378,038	319,006	4.1	4.7	242,065

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.

Table 5-6. Adak, Area R, historic red king crab catch statistics, 1960/61-1995/96.

Season	Number of Vessels	Number of Landings	Crab[a]	Harvest[a,b]	Pots Pulled	CPUE[c]	Percent Recruits	Average Weight[b]	Average Length[d]	Dead-loss[b]
1960/61	4	41	NA	2,074,000	NA	9	NA	NA	NA	NA
1961/62	8	218	NA	6,114,000	NA	NA	NA	NA	NA	NA
1962/63	9	248	NA	8,006,000	NA	NA	NA	NA	NA	NA
1963/64	11	527	NA	17,904,00	NA	NA	NA	NA	NA	NA
1964/65	18	442	NA	21,193,00	NA	NA	NA	NA	NA	NA
1965/66	10	431	NA	12,915,00	NA	NA	NA	NA	NA	NA
1966/67	10	90	NA	5,883,000	NA	NA	NA	NA	NA	NA
1967/68	22	505	NA	14,131,00	NA	NA	NA	NA	NA	NA
1968/69	30		NA	16,100,00	NA	NA	NA	NA	NA	NA
1969/70	33	435	NA	18,016,00	115,929	NA	NA	6.5	NA	NA
1970/71	35	378	NA	16,057,00	124,235	NA	NA	NA	NA	NA
1971/72	40	166	NA	15,475,94	46,011	NA	NA	NA	NA	NA
1972/73	43	313	3,461,025	18,724,14	81,133	43	50.9	5.4	NA	NA
1973/74	41	239	1,844,974	9,741,464	70,059	26	48.5	5.3	148.6	NA
1974/75	36	97	532,298	2,774,963	32,620	16	48.6	5.2	148.6	NA
1975/76	20	25	79,977	411,583	8,331	10	67.5	5.2	147.2	NA
1976/77					C l o s e d					
1977/78	12	18	160,343	905,527	7,269	22	43.9	5.7	152.2	NA
1978/79	13	27	149,491	807,195	13,948	11	56.7	5.4	NA	1,170
1979/80	18	23	82,250	467,229	9,757	8	42.8	5.7	152.0	24,850
1980/81	17	52	254,390	1,419,513	20,914	12	65.2	5.6	149.0	54,360
1981/82	46	106	291,311	1,648,926	40,697	7	55.5	5.7	148.3	8,759

-Continued-

Table 5-6. (page 2 of 2)

Season	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	CPUE[c]	Percent Recruits	Average Weight[b]	Average Length[d]	Dead-loss[b]
1982/83	72	191	284,787	1,701,818	66,893	4	49.9	6.0	150.8	7,855
1983/84	106	248	298,948	1,981,579	60,840	5	30.4	6.6	157.3	3,833
1984/85	64	113	206,751	1,367,672	50,685	4	31.4	6.6	155.1	0
1985/86	35	89	162,271	906,293	32,478	5	40.0	5.6	152.2	6,120
1986/87	33	69	126,146	712,243	29,189	4	NA	5.6	NA	500
1987/88	71	109	211,712	1,213,933	43,433	5	65.3	5.7	148.5	6,900
1988/89	73	156	266,053	1,567,314	64,374	4	39.0	5.9	153.1	557
1989/90	56	123	196,070	1,118,566	54,513	4	NA	5.7	NA	759
1990/91	7	34	146,903	828,105	10,674	14	NA	5.6	NA	0
1991/92	10	35	165,356	951,278	16,636	10	NA	5.7	NA	0
1992/93	12	30	218,049	1,286,424	16,129	13	NA	6.0	NA	5,000
1993/94	12	21	119,330	698,077	13,575	9	NA	5.8	NA	7,402
1994/95	20	31	30,337	196,967	18,146	2	NA	6.5	NA	1,430
1995/96[e]	4	12	6,880	38,941	2,205	3	NA	7.1	NA	213

[a]Includes deadloss.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Carapace lenght in millimeters.
[e]Preliminary data, fishery ongoing.

Table 5-7. Historic Adak red king crab economic performance, 1980/81-1995/96.

Year	Season Total[a]	Number of Vessels[b]	Number of CP'S	Landings	Number of Pots Registered	Number of Pots Pulled	Value Exvessel	Value Total[c]	Season Length Days	Season Length Dates
1980/81	1.4	17	N/A	52	2,471	20,914	$ 0.92	$ 1.3	72	01/15-03/28
1981/82	1.6	46	N/A	106	8,698	40,697	$ 2.01	$ 3.2	107	11/01-02/15
1982/83	1.7	72	N/A	191	13,111	66,893	$ 3.44	$ 5.9	76	11/01-01/15
1983/84	2.0	106	N/A	248	19,407	60,840	$ 3.43	$ 6.9	340	01/10-12/16
1984/85	1.4	64	N/A	113	8,876	50,685	$ 2.10	$ 2.9	97	11/10-02/15
1985/86	.9	35	N/A	89	8,274	32,478	$ 2.15	$ 1.9	107	11/01-02/15
1986/87	.7	33	N/A	69	12,958	29,189	$ 3.85	$ 2.7	107	11/01-02/15
1987/88	1.2	71	N/A	109	17,720	43,433	$ 4.00	$ 4.8	107	11/01-02/15
1988/89	1.6	73	11	156	23,927	64,374	$ 5.00	$ 8.0	34	11/01-12/04
1989/90	1.1	56	10	123	19,363	54,513	$ 4.20	$ 4.6	107	11/01-02/15
1990/91	.7	7	4	34	8,500	10,674	$ 4.00	$ 2.8	107	11/01-02/15
1991/92	.9	10	3	35	2,305	16,636	$ 3.00	$ 2.9	107	11/01-02/15
1992/93	1.3	12	2	30	2,716[d]	16,129	$ 5.05	$ 6.5	76	11/01-01/15
1993/94	.7	12	1	21	3,948	13,575	$ 3.87	$ 2.7	107	11/01-02/15
1994/95	.2	20	2	31	4,065	18,146	$ 5.50	$ 1.1	27	11/01-11/28
1995/96	[e]	4	1	12	NA	2,205	$ 2.70	$ 0.1	107	11/01-02/15

[a]Millions of pounds.
[b]Includes catcher-processors.
[c]Millions of dollars.
[d]Includes gear of vessels landing both red and brown king crab.
[e]38,941 pounds.

Table 5-8. Adak red king crab catch statistics by month, 1994/95.

Month	Number of Vessels	Number of Landing	Number of Crab[a]	Harvest[a, b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead-Loss[a]
Nov	20	31	30,337	196,967	18,146	6.5	2	1,430
Total	20	31	30,337	196,967	18,146	6.5	2	1,430

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.

Table 5-9. Adak red king crab catch statistics by month, 1995/96.

Month	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead-loss[b]
Nov	4	7	5,610	30,395	1,488	5.4	5	235
Dec	C O N F I D E N T I A L							
Jan	C O N F I D E N T I A L							
Total	4	12	6,880	38,941	2,205	5.7	3	235

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.

Table 5-10. Adak red king crab catch by statistical area, 1995/96.

Stat Area	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead-loss[b]
795200	6	261	1,802	217	6.9	1	0
805131	3	461	2,766	58	6.0	8	0
805132	7	758	4,584	138	6.1	6	35
805201	7	1,570	10,413	519	6.6	3	0
Other	15	3,830	19,376	1,054	5.7	4	200
Total	12	6,880	38,941	2,205	5.7	3	235

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.

Table 5-11. Western Aleutians District historic *C. bairdi* Tanner crab catch statistics, 1973/74-1995/96.

Year	Date Opened	Date Closed	Number of Vessels	Number of Landings	Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Size[d]	Price/ Pound
1973/74	11/01	10/15	7	12	31,079	71,887	2,390	2.3	13	-	N/A
1974/75	11/01	10/15	Confidential								
1975/76	11/01	10/15	Confidential								
1976/77	11/01	10/15	Confidential								
1977/78	11/01	06/15	6	7	103,190	237,512	2,700	2.3	38	5.5	$ 0.38
1978/79	11/01	06/15	6	9	84,129	197,244	4,730	2.3	18	5.5	$ 0.53
1979/80	11/01	06/15	10	12	147,843	337,297	5,952	2.3	25	5.5	$ 0.52
1980/81	01/15	06/15	9	23	95,102	220,716	7,327	2.3	13	5.5	$ 0.54
1981/82	01/15	06/15	17	43	364,164	838,697	21,910	2.3	17	5.5	$ 1.30
1982/83	11/01	06/15	61	125	225,491	488,399	40,450	2.2	6	5.5	$ 1.27
1983/84	11/10	06/15	31	86	171,576	384,146	20,739	2.2	8	5.5	$ 0.95
1984/85	11/10	06/15	31	41	75,009	163,460	13,416	2.2	6	5.5	$ 1.30
1985/86	11/01	06/15	15	30	98,089	206,814	7,999	2.1	12	5.5	$ 1.40
1986/87	11/01	06/15	8	24	19,874	42,761	10,878	2.1	2	5.5	$ 1.50
1987/88	11/01	04/20	15	37	63,545	141,390	7,453	2.2	8	5.5	$ 2.10
1988/89	11/01	05/07	36	77	69,280	148,997	18,906	2.1	4	5.5	$ 1.00
1989/90	11/01	04/09	12	30	22,937	48,746	6,204	2.1	4	5.5	$ 1.00
1990/91	11/01	03/25	5	21	6,901	14,779	1,309	2.1	5	5.5	$ 1.25
1991/92	11/01	03/31	8	8	3,483	7,825	986	2.2	4	5.5	$ 1.00
1992/93	11/01	03/31	Confidential								
1993/94	11/01	03/31	NO REPORTED CATCH								
1994/95	1101	03/31	NO REPORTED CATCH								
1995/96[e]	11/01	03/31	NO REPORTRD CATCH								

[a]Deadloss included

[b]In pounds.

[c]Defined as catch per pot pull.

[d]Minimum carapace width in inches.

[e]Fishery in progress.

Table 5-12. Western Aleutian *C. tanneri* Tanner crab catch, 1993-1995.

Year	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Lifted	Average Weight[b]	CPUE[c]	Deadloss[b]
1993	NO REPORTED CATCH							
1994	CONFIDENTIAL							
1995	6	16	76,339	144,721	16,699	1.9	4	16,964

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per unit effort.

Table 5-13. Western Aleutian *C. tanneri* Tanner crab economic performance, 1993-1995.

Year	Season Total[a]	Number of Vessels	Number of Landings	Number of Pots Registered	Number of Pots Pulled	Value Exvessel	Value Total[b]	Season Length Day	Season Length Dates
1993				N O R E P O R T E D C A T C H					
1994				C O N F I D E N T I A L					
1995	127,757	6	16	NA	16,699	$1.52	$0.2	365	01/1-12/31

[a]Deadloss not included.
[b]Millions of dollars.

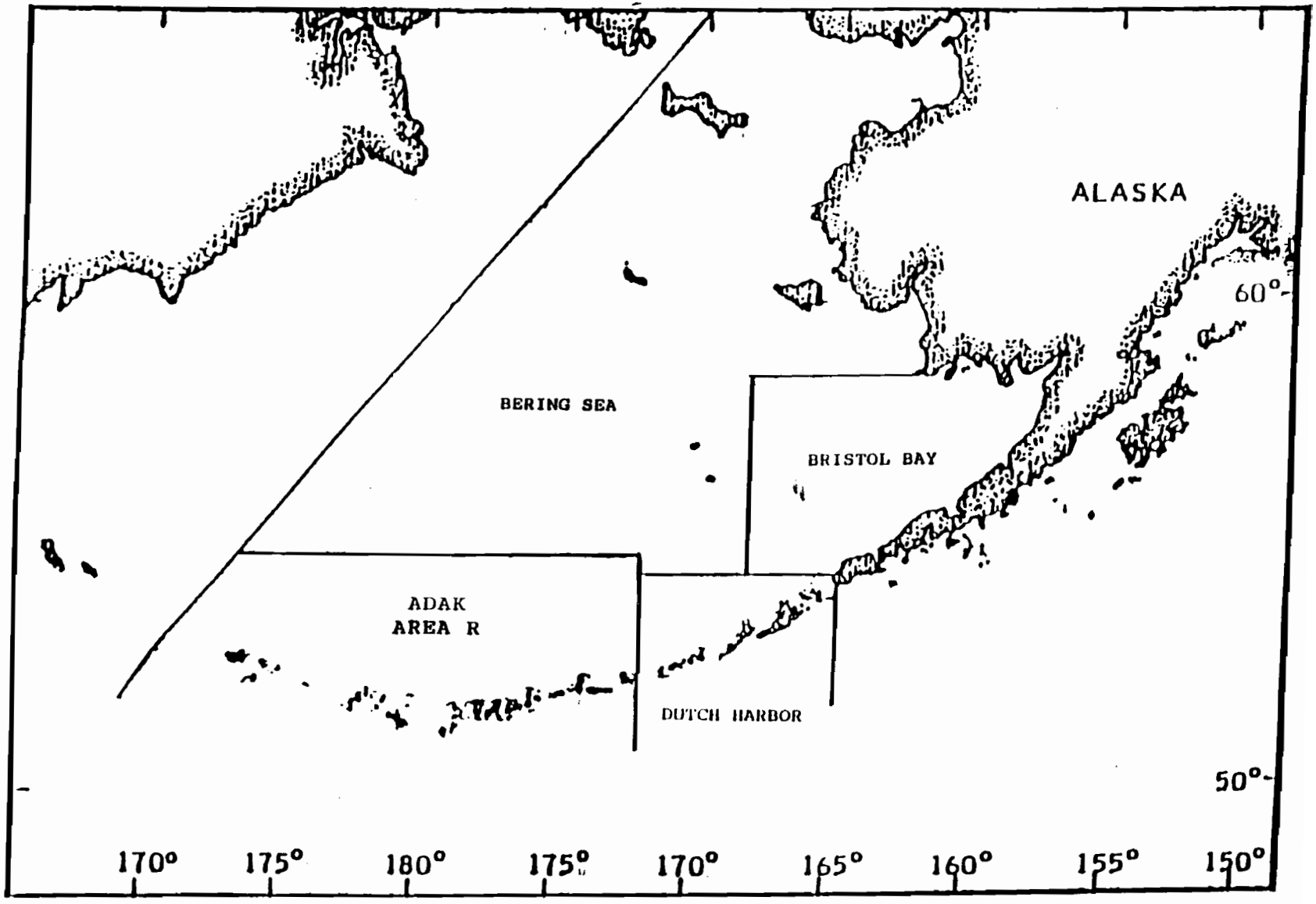

Figure 5-1. Adak, Area R, king crab area.

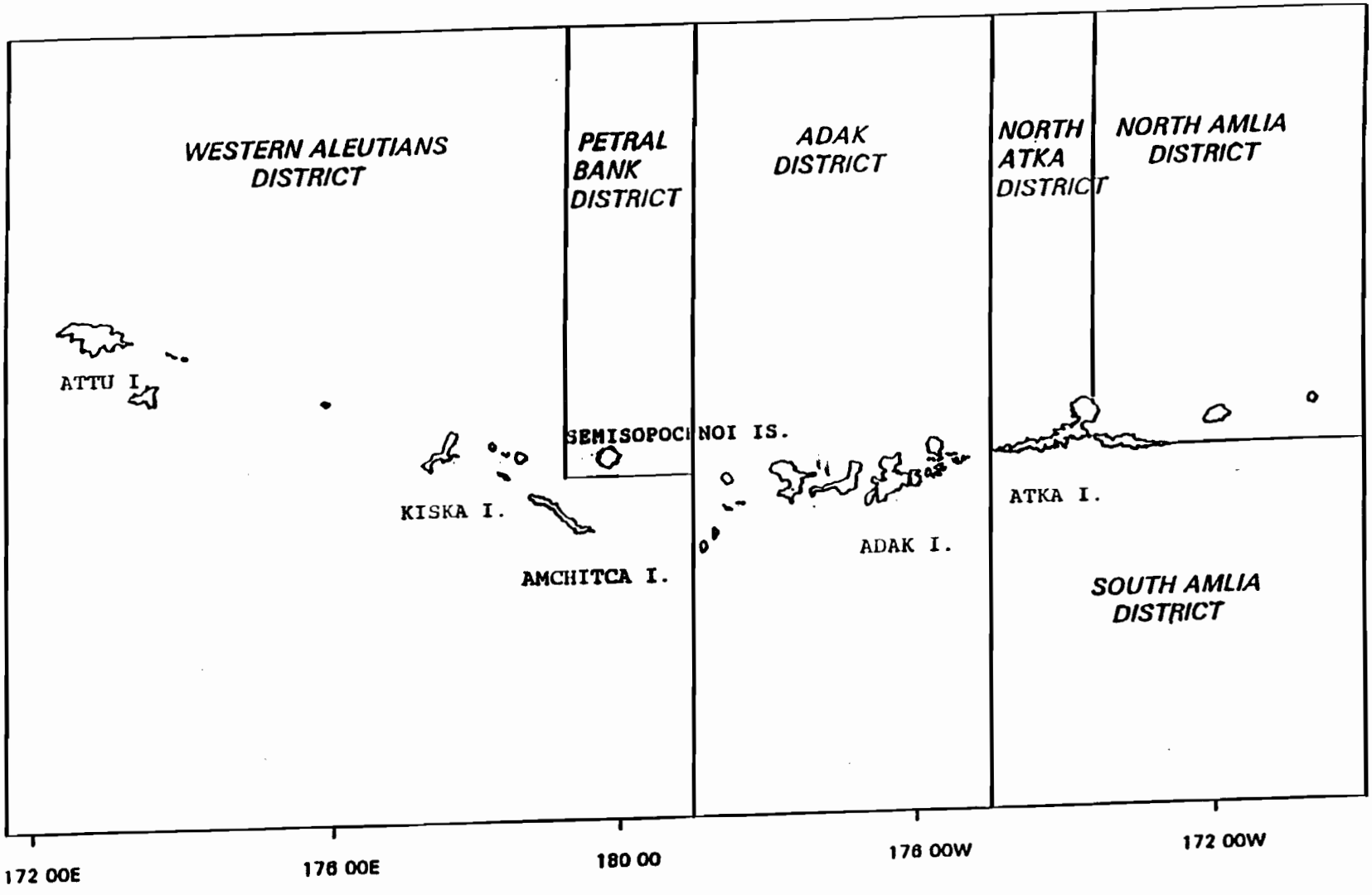

Figure 5-2. Adak, Area R, king crab districts.

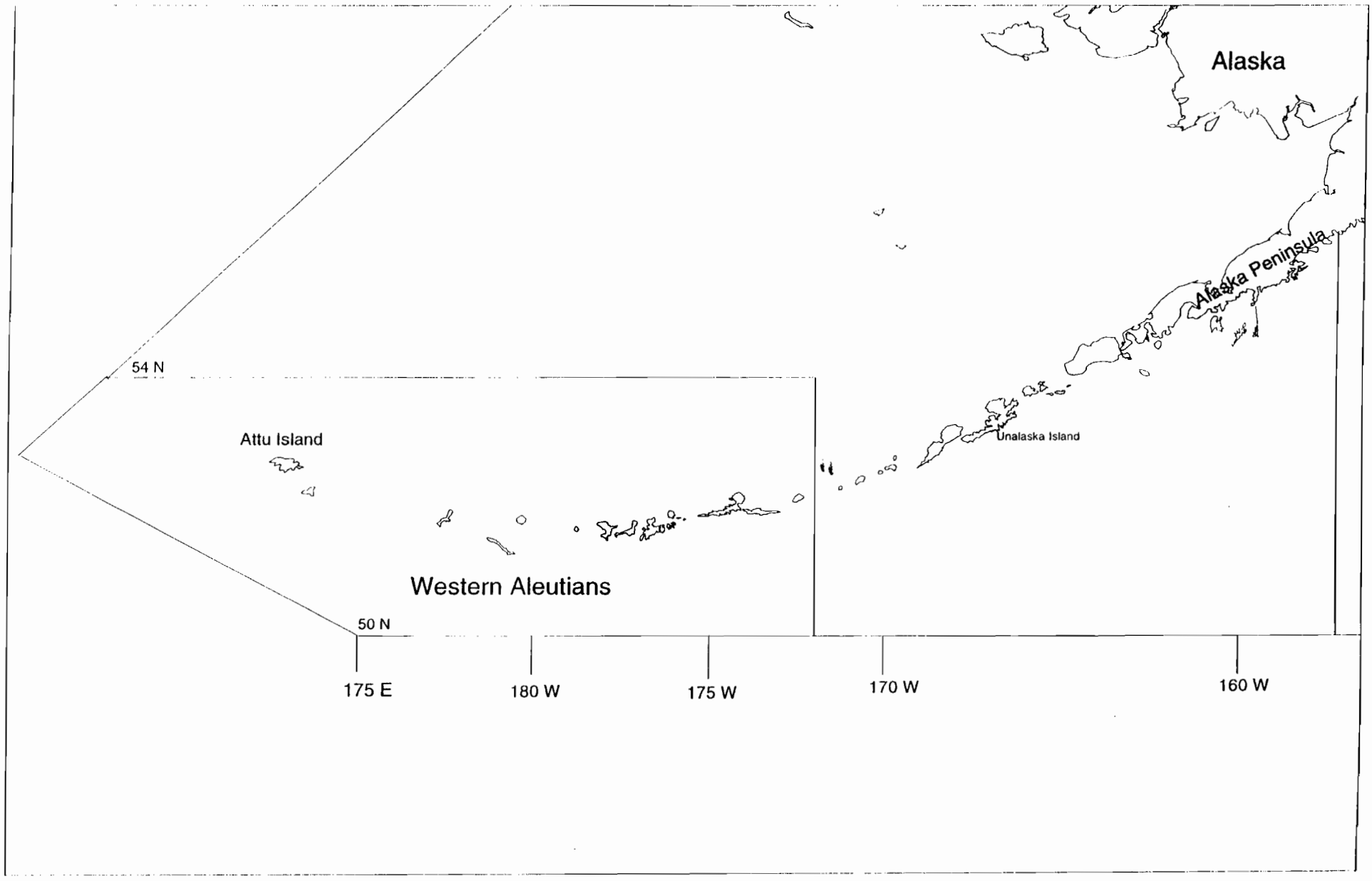

Figure 5-3. Western Aleutian Tanner Crab districts.

ANNUAL MANAGEMENT REPORT FOR THE

SHELLFISH FISHERIES OF THE BERING SEA AREA, 1995

By

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March 1997

KING CRAB STATISTICAL AREA Q
BERING SEA

Description

The Bering Sea king crab registration area, Statistical Area Q, includes all waters north of Cape Sarichef, south of Point Hope, and east of the U.S.-Russian Convention Line of 1867; it excludes those waters of Bristol Bay, and south of 55°30' North Latitude and west of 171° West Longitude. Area Q is separated into the Pribilof and Northern Districts. The Pribilof District includes the waters south of Cape Newenham. The Northern District incorporates all of the waters north of Cape Newenham, and is further divided into three sections. The Saint Matthew Island Section includes the waters north of Cape Newenham and south of Cape Romanzof. Norton Sound Section includes all waters north of Cape Romanzof, south of Cape Prince of Wales, and east of 168° West Longitude. The Saint Lawrence Island Section encompasses all remaining waters of the district (Figure 6-1).

Historic Background

The king crab fishery in the Pribilof Islands started in 1973 when vessels targeted blue king crab in the vicinity of St. George and St. Paul Islands. The first reported catch was 1.2 million pounds taken by eight vessels between July and October. Crab averaged 7.3 pounds, and catch per unit effort (CPUE) was 26 crabs per pot.. A CPUE of 26 crabs has never been attained by the fleet since. The CPUE declined from 20 crabs per pot in the 1974/75 season to 12 crabs per pot during the 1976/77 season. From the 1977/78 season through the 1981/82 season the CPUE remained nearly constant at an average of 8 crabs per pot. The CPUE declined to 5 crab per pot during the 1982/83 season. Three crabs or less per pot were observed during the six subsequent seasons. Average weight remained relatively constant from the initial season through the conclusion of the 1987/88 season. Due to low population estimates in this district, the blue king crab fishery was closed beginning with the 1988/89 season (Table 6-1). The 1993 National Marine Fisheries Service (NMFS) summer trawl survey indicated a marked increase in the abundance of red king crab, historically rare in the area. While no threshold level was established for Pribilof red king crab, survey results indicated a harvestable surplus did exist. For the first time a red king crab fishery was opened in the Pribilof district in September of 1993 with a guideline harvest level (GHL) of 3.4 million pounds.

During the Spring 1993 Alaska Board of Fisheries meeting regulations were adopted which changed the opening date of the St. Matthew king crab fishery from September 1 to September 15, concurrent to the king crab fishery in the Pribilof District. This action was taken to improve fleet distribution during the Pribilof and St. Matthew seasons, thereby reducing the number of vessels participating in each fishery. Also at this meeting the Board of Fisheries passed regulations which established pot limits for all vessels fishing king crab in the Bering Sea based on overall vessel length. In the Northern district, which includes the St. Matthew Island section, vessels over 125 feet were limited to 75 pots while those equal to or less than 125 feet were allowed a maximum of

60 pots. In the Pribilof district pot limits were established at 50 and 40 for vessels greater than 125 feet and less than 125 feet in length overall respectively.

1995 Fishery - Pribilof District

In 1995 the Pribilof District was open to blue king crab harvest for the first time since 1987. Results from the NMFS trawl survey of the Bering Sea conducted in June and July of this year indicated a harvestable surplus of 5.0 million pounds of red king crab and 3.64 million pounds of blue king crab in the Pribilof area. A high degree of variance in the survey estimate for the Pribilof area prompted the department to reduce the harvestable surplus for both the red and blue king crab to a level more reflective of prior year's surveys and fishery performance. As a result a harvest guideline of 2.5 million pounds was established for red and blue king crab combined.

A total of 129 catcher vessels and one catcher-processor purchased buoy tags from ADF&G offices in Dutch Harbor and Kodiak for the 1995 season. Three of these vessels failed to obtain a tank inspection and did not participate. Tank inspections were began at 12:00 noon on September 14 and were conducted by ADF&G personnel stationed in Akutan, Dutch Harbor and St. Paul. Due to favorable weather in the Pribilof Islands, a total of 102 vessels elected to obtain tank inspections in the St. Paul Island harbor. Only one vessel was inspected at Akutan. As in past years, no shellfish staff were assigned to the port of King Cove. However, salmon management staff stationed in Cold Bay agreed to stand by to conduct inspections at King Cove or Cold Bay on an as-needed basis. No vessels requested a tank inspection in either of those locations. The number of vessels in this year's Pribilof fishery increased from 104 in 1994. Most of the increase in effort was comprised of salmon limit seine vessels, 58 feet in length, from the Sand Point and King Cove area. This year a total of 5,400 pots were registered for the Pribilof area compared to 4,675 pots in 1994 (Table 6-2).

The 1995 Pribilof red and blue king crab fishery opened concurrent to the St. Matthew blue king crab fishery on September 15 at 12:00 noon. Unlike the 1994 season, which was managed on prior year's fishery performance, management of the 1995 fishery was based on daily inseason vessel catch reports. As a result of the large number of vessels registered, a total of 61 vessels signed up to report via single side band radio (SSB) and marine satellite communications (MCI). Projections, based on inseason reports indicated a combined total of 2.5 million pounds of red and blue king crab would be harvested by 12:00 noon on September 22. These projections showed a split between the catch of red and blue king crabs to be somewhat even at 1.3 and 1.2 million pounds respectively. Based on these projections, the fishery was closed after 7 days at 12:00 noon on September 22. The actual harvest of 0.9 million pounds of red king crab and 1.2 million pounds of blue king crab, a combined harvest of 2.1 million pounds, was below the 2.5 million pound GHL.

This year's catch, from approximately 35,000 pot lifts (both red and blue king crab combined), came predominately from the seven statistical areas directly surrounding the Pribilof Islands, similar to the distribution of effort during 1993 and 1994 seasons (Tables 6-3 and 6-4).

A total of eight shore based processors, and 2 floating processors purchased crabs during the 1995 fishery. One independent buyer purchased Pribilof red king crab exclusively. The 1995 exvessel

price of $3.37 for red king crab and $2.92 for blue king crab was the lowest in 10 years. The total value of the 1995 Pribilof red king crab fishery was $3 million compared to $8 million in 1994 and $13 million in 1993.

A total of 151 landings made up the 0.9 million pound harvest of red king crab. Average weight of red king crab harvested in 1995 was 8.1 pounds, similar to last year's average of 8.0 pounds. The CPUE for red king crab was down from 6 in 1994 to 3.2 in 1995.

A total of 152 landings made up the 1.3 million pound harvest of blue king crab. Average weight of blue king crab was 7.3 pounds, similar to the 7.4 average caught during the last Pribilof blue king crab fishery in 1988 and 2.5 pounds larger, on average, than blue king crab harvested from the 1995 St. Matthew fishery (Table 6-5). A (CPUE) of 4.8 was a marked improvement over the 1988 season CPUE of 2.0, when this species was last targeted in the Pribilof area. The 1995 exvessel price of Pribilof blue king crab was $2.92 per pound, $.60 higher than the price paid for St. Matthew blue king crab and was likely due to the larger average size of the Pribilof catch. The total value of the 1995 Pribilof blue king crab fishery was $3.6 million.

Weather conditions during the 1995 fishery were unseasonably mild. Despite favorable weather, a number of vessels bound for King Cove failed to reach their delivery location in the 24 hours following the fishery closure as allowed by regulation. These vessels were met at the dock in King Cove by officers of the Division of Fish and Wildlife Protection and cited for late delivery.

Stock Status

Blue king crab stocks in the Pribilof District appear to be above the established threshold and stable. Red king crab stocks currently have no established threshold in the Pribilof District. However, confidence in the population estimate derived from the NMFS summer trawl survey of the area around the Pribilof Islands is low due to the apparent clumped distribution of crab in that area as evidenced by a large number of the legal crabs caught at a single sampling station. Both red and blue king crab in this area should be managed conservatively.

1995 Fishery - St. Matthew Island District

Based on the 1995 NMFS summer trawl survey of the Bering Sea a GHL for St. Matthew blue king crab was set at 2.4 million pounds (Table 6-6). A total of 90 vessels, including one catcher-processor, purchased buoy tags from ADF&G offices in Dutch Harbor and Kodiak. All 90 vessels received tank inspections by ADF&G personnel stationed in Akutan, Dutch Harbor and St. Paul. This compares to a total of 87 vessels which registered and received tank inspections for the 1994 fishery. The number of vessels registered in the last three seasons has remained well below the 174 vessels which registered for the 1992 fishery. A total of 5,970 pots were registered for the 1995 St. Matthew fishery compared to 5,685 pots in 1994 and 5,895 pots in 1993.

The 1995 fishery opened at 12:00 noon on September 15, concurrent to the Pribilof district king crab fishery. Unlike the 1994 season, which was managed on prior year's fishery performance, the 1995 fishery was managed on daily inseason vessel catch reports. A total of 54 vessels volunteered to provide daily catch information via single side band radio (SSB) and marine satellite communications (MCI). Catch projections, based on radio report data, indicated the harvest would reach 3.4 million pounds by 12:00 noon on September 20. As a result, the fishery was closed after 5 days of fishing at 12:00 noon on September 20 (Table 6-7). The 1995 harvest total of 3.2 million pounds, from 111 landings, exceeded the 2.4 million pound pre-season harvest guideline (Table 6-8).

This year's catch, which resulted from approximately 48,500 pot lifts, came predominately from two statistical areas south of St. Matthew Island, similar to the location of the 1992, 1993, and 1994 harvests (Table 6-9). All information regarding the 1995 catcher-processor effort is confidential since less than three catcher processors participated in the 1995 St. Matthew fishery (Table 6-10).

Average weight of St. Matthew blue king crab for the 1995 season was 4.8 pounds. This is the same average weight recorded in 1993, up from the 1994 average of 4.6 pounds. The 1995 CPUE was in excess of 13 crabs per pot compared to the 13, 11, 10 and 20 crab per pot averages during the prior four seasons.

A total of six shore based processors and four floating processors purchased crab during the 1995 fishery. The 1995 exvessel price for St. Matthew blue king crab was $2.32 per pound, the lowest price paid since 1985 when the fishermen were given $1.60 per pound. The value of the 1995 St. Matthew blue king crab fishery was $7.1 million. This is less than half the $15 million value of the 1994 fishery.

Stock Status

Blue king crab stocks in the St. Matthew Island area appear to be above established thresholds. Based on the 1995 NMFS summer survey, legal male abundance decreased from 2.5 million in 1994 to 2.4 million in 1995. This stock remains below historic levels and continues to be managed as a depressed fishery.

KING CRAB REGISTRATION AREA T
BRISTOL BAY

Introduction

The Bristol Bay king crab Area T includes all waters north of Cape Sarichef, east of 168° West longitude and south of the latitude of Cape Newenham and includes all waters of Bristol Bay.

Historic Background

Commercial king crab fishing in the Bering Sea began with the Japanese in 1930 and continued until 1940. They returned to the fishery in 1953 and remained until 1974. The Russian king crab fleet operated in the eastern Bering Sea from 1959 until 1971. United States fishermen entered the eastern Bering Sea fishery with trawl gear in 1947. Effort and catches declined in the 1950's with no catch being reported in 1959. A period of fluctuating low catches followed through 1966 before expansion to the full scale fishery of the mid to late 1970's. As in other areas of the state, the stocks crashed in the early 1980's and are currently depressed.)

With the decline of king crab stocks in other areas of the state in 1968, U. S. effort continued to increase in the eastern Bering Sea with a record catch of 129.9 million pounds landed during the 1980 season (Table 6-11). The eastern Bering Sea king crab fishery traditionally harvested red king crab from the Bering Sea and Bristol Bay waters north of Unimak Island and the Alaska Peninsula from Cape Sarichef to Port Heiden.

In 1980 the Board of Fisheries made the Southeastern District of the Bering Sea (the major red king crab grounds) an exclusive registration area. It was named Bristol Bay, Registration Area T. Vessels registering for and fishing in this area are prohibited from fishing in any other exclusive registration area leaving only the Bering Sea (Area Q) and Adak (Area R) as alternative fishing areas.

As a result of the NMFS trawl survey, Area T remained closed during the 1983 season due to the lowest estimated king crab population on record. Small females carrying fewer eggs and high predator abundance also contributed to the closure decision.

Since the reopening of the fishery in 1984, catches slowly increased to over 20.3 million pounds harvested during the 1990 season. Due to the large number of catcher-processors and floating processors in the fishery and the inability of the department to monitor these catches, an observer program was implemented in 1988. Fishing effort has increased dramatically from 89 vessels in 1984 to over 300 vessels in 1991. With the increase in fishing effort, the amount of pots being used by the fleet also increased, with over 90,000 registered in 1991.

In 1992, the Board of Fisheries established a 250 pot limit for the Bristol Bay red king crab fishery. This measure was designed to assist the manager's ability to monitor the fishery and control the harvest. Pot limits, which were to be applied through a buoy sticker program, were designed to assist inseason management of the fisheries and reduce the potential for pot loss.

Immediately following the 1992 Bristol Bay red king crab fishery, buoy sticker requirements were suspended due to a high failure rate of the stickers adhering properly to buoys. Despite suspension of the buoy sticker requirement, the 250 pot limit remained in effect until repealed by the NMFS on November 30. This action was due to perceived inconsistencies with provisions of the Bering Sea/Aleutian Island king and Tanner crab Federal Management Plan (FMP), which mandated application of pot limits in a nondiscriminatory manner.

In the spring of 1993 the Alaska Board of Fisheries passed new regulations in which pot limits on all vessels fishing king and Tanner crab in the Bering Sea (based on overall vessel length) were established. For the king crab Area T fishery, vessels in excess of 125 feet in overall length were limited to 250 pots and vessels less than 125 feet in length overall were allowed 200 pots. The pot limits are applied through a buoy tag program from the Dutch Harbor and Kodiak ADF&G offices.

Projected harvest shortfalls in both the St. Matthew blue king and Pribilof Islands red king crab fisheries in mid-September 1993 prompted a meeting in Seattle between fishermen, industry representatives and staff from ADF&G and NMFS to discuss methods to improve inseason data collection and management. A sales representative from MCI Communications Incorporated presented information at that meeting about satellite communications software currently available for confidential communication between ADF&G and vessels at sea, which could be used for daily inseason catch reporting. As a result of this meeting, ADF&G purchased the necessary computer hardware and software for retrieval of daily satellite transmitted catch messages from vessels at sea. Historic fishery data is summarized in Tables 6-11, 6-12 and 6-13.

Results of the NMFS 1994 summer trawl survey of the Eastern Bering Sea indicated declines in all size classes of both male and female red king crab in the Bristol Bay area. Compared to observations made during the 1993 survey, the abundance index of large male crab declined 25%. Based on 1994 survey results, large female abundance was estimated at 7.5 million crabs, which was below the minimum threshold of 8.4 million crab. As a result, the Bristol Bay area was not open to fishing for the 1994 season.

1995 Fishery

The Bristol Bay red king crab fishery did not open for the 1995 season due to depressed red king crab stocks in the Bristol Bay statistical area T.

Status of stocks

The 1995 NMFS summer trawl survey of the Eastern Bering Sea indicated no significance change in the abundance of mature male and female red king crab from estimates made from the 1994 survey. Although the 1995 survey indicated a slight increase in the number of immature, prerecruit and legal sized crabs relative to 1994, the stock remains depressed. The relative abundance of large females remains at 8.4 million animals. This is equal to the threshold level of large female crabs which must be exceeded in order to allow for a commercial harvest of male crabs. As a result, the fishery remained closed for the 1995 season, the second consecutive closure of the area due to insufficient numbers of large mature female crab.

BERING SEA BROWN KING CRAB

Description

The Bering Sea king crab registration area, Statistical Q, as described in 5 AAC 34.900, includes all waters north of Cape Sarichef, south of Point Hope, and east of the U.S.-Russian Convention Line of 1867; it excludes those waters of Bristol Bay, and south of 55° 30' ; North Latitude and west of 171° West Longitude. Area Q is separated into the Pribilof and Northern Districts. The Pribilof District includes the waters south of Cape Newenham. The Northern District incorporates all of the waters north of Cape Newenham.

Introduction

Commercial harvest of the Bering Sea brown king is allowed as provided in 5 AAC 34.910 under conditions of a permit issued by the commissioner. The first recorded commercial brown king crab harvest in the Bering Sea was in 1981 in the Pribilof District and in 1982 in the St. Matthew section of the Northern District (Tables 6-14 and 6-15).

At the Spring 1993 Board of Fisheries meeting a pot limit was imposed on all vessels fishing king crab in the Bering Sea where vessels in the Pribilof district are allowed a maximum of 50 pots and vessels in the St. Matthew district are allowed a maximum of 75 pots. (During the March 1995 Board of Fisheries meeting pot limits for the deep water crab fisheries in the Bering Sea were addressed, however the board decided not to include Bering Sea brown king crab pot limits in the discussion because pot limits for that fishery had been considered during the 1993 meeting. Therefore the issue can not be up for reconsideration until the 1996 Board convenes.)

1995 Fishery - Pribilof District

Seven vessels registered and participated in the Pribilof District fishery in 1995. Twenty two landings were made for a total catch of 341,700 pounds. Overall effort and catch were at a ten year high this season with the CPUE of 9 crabs per pot, down from last year's CPUE of 12. Average weight of landed brown king crabs remained at 4.1 pounds during the last two seasons.

1995 Northern District

Four vessels registered for the Northern District in 1995. Four landings were made for a total catch of 1,200 pounds. The CPUE was 1 crab per pot averaging 4.9 pounds.

Stock Status

There are no annual abundance estimates made for Bering Sea brown king crab stocks. High catches in the early years of the fishery declined- as the virgin stock was exploited.

BERING SEA KOREAN HAIR CRAB

Introduction

The Bering Sea hair crab registration district, includes all waters north of 54° 36' North latitude, south of 58° 39' North latitude, and east of the U.S.-Russian Convention Line of 1867 (Figure 6-2). This region is divided into the Pribilof Islands Area (west of 168° West longitude), and the Bristol Bay Area (east of 168° West longitude).

Historic Background

Korean hair crab, *Erimacrus isenbeckii*, sold commercially as "kegani" by the Japanese, were fished commercially for the first time by the U.S. fleet in 1978/79. Most fishing effort has been concentrated in waters adjacent to the Pribilof Islands. When interest in hair crab was first expressed by fishermen and processors the season was opened by emergency order and ran concurrently with the Bering Sea Tanner crab fishery. During the 1980 Board of Fisheries meeting, a year long season was established under the terms of a permit issued by the Alaska Department of Fish and Game. Between 1979 and 1991, the majority of hair crab landed were reported as incidental catch in the Bering Sea Tanner crab fisheries. Beginning with the 1993 Bering Sea hair crab fishery, terms of the special permit issued by the commissioner of ADF&G included 100% observer coverage on all hair crab vessels for the purposes of collecting data on the targeted species and to monitor bycatch. At their Spring 1994 meeting in Anchorage, the Alaska Board of Fisheries defined hair crab pots as a pot with a rigid tunnel opening located in the top of the pot, with a tunnel perimeter not exceed 26 inches, and a base that does not exceed 48 inches in any one direction.

1995 Fishery

The 1995 National Marine Fisheries Service (NMFS) summer trawl survey of the Bering Sea indicated the index of abundance for large (3.25" and larger) male hair crab at 6.54 million crab. This was a 46% increase in abundance from levels observed during the 1994 survey. However, confidence in the precision of this estimate was low ($\pm$ 60%). The majority of large male hair crab were observed in the vicinity of the Pribilof Islands west of 168 ° West Longitude. Very few large male crab were observed in survey tows conducted in the Bristol Bay area east of 168° West Longitude. Consequently, as with last year. no permits to harvest hair crab east of 168° in that area were issued for the 1995 season.

Calculations of total allowable harvest based on exploitation rates of 0.20 and 0.25 yielded harvest guideline midpoints of 1.8 and 2.4 million pounds respectively. Last season's harvest of 1.1 million pounds resulted in an exploitation rate of 0.23. Due to the high degree of uncertainty in the 1995 survey estimate, the Department elected a more conservative rate of 0.20, which resulted in a harvest level (GHL) of 1.8 million pounds.

The 1995 Korean hair crab fishery in the Pribilof Islands portions of the Bering Sea District o f Area J, west of 168° opened November 1 at 12:00 noon. A total of 21 vessels participated in the 1995 fishery which was closed by emergency order on November 26. The harvest from 81 landings totaled 2.1 million pounds (6-16).

Of the 21 vessels which participated in this year's fishery, 19 registered and obtained observers for the November 1 opening. The remainder entered the fishery after the closure of the Tanner crab fishery on November 16. For comparison, in 1994 a total of 9 vessels entered the fishery on November 1 and one additional vessel entered the fishery midway through the season.

Observer reports through November 23 indicated the total weekly harvest in the 1995 fishery ranged from 230,836 to 756,523 pounds per week. The number of pots pulled per week ranged from 77,257 to 117,896. Average number of pots pulled per vessel per day was approximately 950. Fleet-wide CPUE ranged from 5.9 crab per pot in the initial stages of the fishery to 2.0 crab per pot in the several days preceding the closure. This year's fishery CPUE was 3.4 crab per pot, similar to the 1994 fishery.

The average weight of crab caught in the 1995 fishery was 1.4 pounds, larger than the prior two seasons which averaged 1.3 and 1.2 pounds respectively. This is below the historical high of the 2.2 pound average observed in the 1980/81 fishery.

The 1995 exvessel price for number one grade crab (no barnacles, no missing legs) was $3.15 per pound. Approximately 70% of the total harvest was purchased as grade one. Grade number two crab (no barnacles, 1 missing leg or claw or up to 5 barnacles with no missing legs which made up 17% of the harvest, were purchased for $2.10 per pound. Number three grade crab (5 plus barnacles, and more than one missing leg) were purchased for $.75 to $1.00 per pound and made up 13% of the landed harvest.

The overall average exvessel value of all crab landed (all grades combined) was $2.87 per pound. The one live shipper was paying $3.50 per pound in St. Paul. Total estimated value of this year's fishery was $5.7 million. This compares to last year's overall exvessel value (all grades combined) of $3.55 per pound and fishery value of $4.0 million (Table 6-17).

The 1995 harvest occurred from areas surrounding the Pribilof Islands, with greatest concentrations of catch coming from that area east of St. Paul Island. This is consistent with the area's harvests previously recorded in prior seasons.

BERING SEA SCARLET KING CRAB

Introduction

The Bering Sea king crab registration area, Statistical Area Q, includes all waters north of Cape Sarichef, south of Point Hope, and east of the U.S.-Russian Convention Line of 1867; it excludes those waters of Bristol Bay, and south of 55°30' North Latitude and west of 171° West Longitude. Area Q is separated into the Pribilof and Northern Districts. The Pribilof District includes the waters south of Cape Newenham. The Northern District incorporates all of the waters north of Cape Newenham, and is further divided into three sections. The Saint Matthew Island Section includes the waters north of Cape Newenham and south of Cape Romanzof. Norton Sound Section includes all waters north of Cape Romanzof, south of Cape Prince of Wales, and east of 168° West Longitude. The Saint Lawrence Island Section encompasses all remaining waters of the district.

Historic Background

Scarlet king crab *Lithodes couesi* are harvested under authority of a permit as authorized in 5AAC 35.082. Scarlet king crab have traditionally been caught from the Bering Sea management area Q mainly as indicated bycatch in the *C. tanneri* and blue king crab fisheries. Vessels fishing for brown king crab have registered for this fishery, however. (Historic information regarding vessel effort and harvest is below minimum standards and not available for public dissemination.)

1995 Fishery

A total of five vessels registered for scarlet red king crab in the Pribilof District of the Bering Sea during the 1995 season. Four pounds with a CPUE of less than one crab.

Even though three vessels registered in the St. Matthew Section of the Northern District registration area, no deliveries were made.

Stock Status

No annual abundance estimates are available for scarlet king crab stocks. However, onboard observers have been required on all vessels targeting on *C. tanneri* and *C. angulatus* and have collected information on size, sex, and species composition of the retained and non-retained scarlet king crab catch. This information is being analyzed and will be used to develop management measures for these stocks.

BERING SEA DISTRICT TANNER CRAB

Introduction

The Bering Sea District of Statistical Area J includes all waters of the Bering Sea north of the latitude of Cape Sarichef and east of the U.S.-Russian Convention Line of 1867. This district is divided into the Eastern and Western Subdistricts, east and west of 173° West Longitude, respectively (Figure 6-3). The Eastern Subdistrict is further divided into the Norton Sound and General Sections. Two Tanner crab species, *Chionoecetes bairdi* and *C. opilio*, are commercially harvested in the Bering Sea District.

C. bairdi Tanner Crab Historic Background

The first reported Tanner crab catches were made in 1968 incidental to the king crab fishery. In 1974 a directed *C. bairdi* crab fishery began. During the fall Board of Fisheries meeting in 1978, the National Marine Fisheries Service (NMFS) estimated as much as a 50% decline in *C. bairdi* stocks could be expected during the 1978/79 fishing season, and that the stock would continue to decline for several years. As predicted, the *C. bairdi* stocks showed a sharp decline. Catches decreased from 29.7 million pounds 1981, to 5.3 million pounds in 1983, to a total closure of the *C. bairdi* fishery in 1986 (Table 6-18).

Although prices have remained high for *C. bairdi*, fishing effort has decreased as the stock abundance decreased. The harvest of *C. bairdi* has been primarily from the Southeastern Subdistrict (now the Eastern Subdistrict). The historic catch of *C. bairdi*, by subdistrict and season, is summarized in Table 6-19.

During their Spring 1992 meeting, the Alaska Board of Fisheries passed regulations which set a 250 pot limit on all vessels fishing king and Tanner crab in the Bering Sea. The pot limits, which were to be applied through a buoy sticker program, were implemented to assist inseason management of the fisheries and to reduce the potential for pot loss.

On November 10, 1992 buoy sticker requirements were suspended due to a high failure rate of the stickers adhering properly to buoys. Despite suspension of the buoy sticker requirement, the 250 pot limit remained in effect until repealed by the National Marine Fisheries Service (NMFS) on November 30. This action by NMFS was due to perceived inconsistencies with provisions of the Bering Sea/Aleutian Island king and Tanner crab Federal Management Plan (FMP) which mandated application of pot limits in a nondiscriminatory manner.

During the Spring 1993 Board of Fisheries meeting regulations were adopted which opened and closed that portion of the Bering Sea east of 168° West longitude to fishing for *C. bairdi* Tanner crab concurrent to the regulatory opening and emergency order closure of Area T red king crab. The Board of Fisheries also mandated a reopening of the Bering Sea between 163° and 173° West longitude for the *C. Bairdi* fishery 10 days following the closure of Area T king crab. This action by

the Board of Fisheries was based on observer bycatch data and historic harvest patterns which indicated the majority of female king crab bycatch in the Bering Sea king and Tanner crab fisheries came from waters east of 163° West longitude.

In an attempt to reduce the number of pots, thereby slowing the harvest rate to allow sufficient time for inseason management, the board also passed regulations which set pot limits on all vessels fishing king and Tanner crab in the Bering Sea based on vessel overall length. Vessels in excess of 125 feet are limited to 250 pots and vessels 125 feet or less are limited to 200 pots.

The Bristol Bay red king crab fishery failed to open for the 1994 season, the first such closure since 1983. As a result, *C. bairdi* fishermen were limited to a harvest guideline of 7.5 million pounds in that portion of the Eastern Bering Sea west of 163° West Longitude.

1995 Fishery

The 1995 Bering Sea *C. Bairdi* Tanner crab fishery opened by regulation at 12:00 noon, November 1. For the second consecutive year the red king crab fishery in the Bristol Bay portion of the Bering Sea failed to open. As a result, only that portion of the Eastern Subdistrict west of 163° West longitude was open fishing for *C. bairdi* Tanner crab. The guideline harvest level (GHL) for the area open to fishing was 5.5 million pounds.

Tank inspections began on October 31, in Dutch Harbor, Akutan, King Cove, and St. Paul. A total of 196 vessels, including 11 catcher-processors, registered for the fishery. One floating processor also registered for on-the-grounds processing. This compares to a total of 183 vessels (including 9 catcher processors) which registered and participated in last year's fishery, which was also limited to that portion of the Eastern Subdistrict west of 163° West longitude.

Despite ideal weather conditions throughout the course of the 1995 fishery, fishermen managed to harvest only 4.2 million pounds of the 5.5 million pound GHL in a 16 day season which was closed by emergency order at 12:00 noon on November 16. A total of 256 landings were made to processors in the Pribilof Islands, Akutan, Dutch Harbor, King Cove and to the one floating processor operating in Akutan Bay. Included in the total landings were 25 vessels which checked out of the Bering Sea and delivered to processors in Kodiak at the close of the season.

Daily inseason catch reports received from 61 volunteer catcher vessels and all 11 catcher processors indicated the fleet-wide catch declined from 10 crab per pot in the opening days of the fishery to less than 6 crabs per pot on November 13, when the fishery closure was announced. Overall fleet-wide performance for the 1995 fishery was 8 crab per pot. This compares to a 13 crab per pot average for the prior 3 seasons.

Average weight of *C. bairdi* Tanner crab harvested during the 1995 season was 2.3 pounds, identical to the prior three seasons (Table 6-20). The exvessel price paid for *C.* bairdi in 1995 was $2.80 per pound for a total fishery value of $11.7 million. This compares to an exvessel value of $3.75 per pound and a total fishery value of $28.5 million for the 1994 season (Table 6-21).

The majority of the 1995 harvest of *C. bairdi* came from the southwest portion of the Eastern Subdistrict immediately west of 163° West Longitude. A less significant portion of the catch came from waters southwest of the Pribilof Islands (Table 6-22).

Stock Status

The 1995 NMFS survey indicated the estimated total abundance of large *C. bairdi* crabs has continued to decline. According to NMFS this decrease is expected to continue and is a result of senescence of the crabs which constituted strong year classes hatched in 1983 and 1984. At this time there is no evidence that significant recruitment to this stock will take place in the near future.

C. opilio Tanner Crab Historic Background

The first reported landings of *C. opilio* Tanner crab were made during the 1977/78 season incidental to *C. bairdi*. A reduction in *C. bairdi* stocks resulted in declines in the commercial harvests from 29.7 million pounds 1981, to 5.3 million pounds in 1983, to a total closure of the *C. bairdi* fishery in 1986. As a result the harvest of *C. opilio* increased from 52.7 million pounds in 1981 to 97.9 million pounds in 1986 to a high of 328.6 million pounds in 1991 (Table 6-23).

1995 Fishery

The 1995 Bering Sea *C. opilio* fishery opened by regulation at 12:00 noon on January 15 (Table 6-24). A total of 253 vessels made 869 deliveries for a season harvest of 75.3 million pounds. A total of 506,802 pots were reported pulled throughout the course of the fishery.

The pre-season guideline harvest level (GHL) for the 1995 season was 55.7 million pounds, based on male crab 4 inches and larger (carapace width). This was a 47% decrease from last season. This year's GHL was divided between the Eastern and Western Subdistricts; 25.0 and 30.7 million pounds, respectively. The 1994 GHL mid-point of 105.8 million pounds was divided between the Eastern and Western Subdistricts; 51.6 and 54.2 million pounds respectively.

For the 1995 season tank inspections were conducted by ADF&G staff at St. Paul, King Cove, Akutan, and Dutch Harbor beginning at 12:00 noon on January 14. The majority of vessels received inspections in St. Paul (148 vessels), followed by Dutch Harbor (80 vessels), Akutan (18 vessels) and King Cove (9 vessels). A total 255 vessels, including 19 catcher processors, registered and given tank inspections. An additional 15 floating processor vessels were also registered for on-the-grounds processing. In 1994 273 vessels registered and received tank inspections for the *C. opilio* fishery in the Bering Sea.

The large number of vessels receiving inspections at St. Paul and high winds, which forced a closure of the harbor for approximately ten hours, caused the inspection process in that location to be protracted over several days. Also contributing to this delay was a large number of vessels

which were not in compliance with pot buoy tag and 3" tunnel restriction regulations at the time of the tank inspection. These delays prompted some vessels to set gear prior to receiving a tank inspection. Several of these vessels were cited by Fish and Wildlife Protection. While last year's tank inspections in St. Paul took approximately the same length of time as this year, due to south west winds which closed the harbor for several days, a fisherman's strike eliminated pressure on the fleet to be on the fishing grounds at the season opening.

The fishery officially opened at noon on January 15, however much of the fleet did not begin setting gear until the following day due to strong northerly winds and extreme sea spray icing. These conditions claimed one vessel and all six members of the crew shortly after the noon opening. Strong sub-freezing winds from the north continued through the first week of February, pushing the ice pack approximately 15 south of St. Paul Island by the February 3rd. This was the most southerly progression of ice, for this time period, in the last 39 years according to the NOAH weather station in Anchorage.

As sea ice moved steadily south and west across the Bering Sea, vessels fishing in the Western Subdistrict and, to a lessor extent, the northern portions of the Eastern Subdistrict were forced to continually move their gear south. This effectively reduced available fishing area, concentrating vessels in the southern portion of both the Eastern and Western Subdistricts. In the Eastern Subdistrict catch per unit of effort (number of crab per pot) fell from 206 during the first week of the fishery to 77 by the end of the third week. Similarly, in the west catch per unit of effort (CPUE) dropped from 152 to 61. Fishery performance in the Eastern subdistrict peaked during the second week of the fishery at 149 crab per pot. In the Western Subdistrict fishery performance peaked in the third week of the fishery at 203 crab per pot.

By the end of the third week of the fishery catch in the Eastern Subdistrict totaled 25.5 million pounds from 338 landings. In the Western Subdistrict the catch from 194 landings totaled 22.7 million pounds for a total harvest of 48.2 million pounds. On February 7 a harvest projection, based on fishery performance up to that time, indicated the harvest guideline midpoint of 55.7 million pounds would be met or exceeded with 10 additional days of fishing. At this time the long term weather forecast predicted winds to shift from north to southwest and push sea ice north. This was expected to open up additional fishing area in both subdistricts. As a result, a closure of the entire Bering Sea District was announced for noon February 17.

At 33 days, the 1995 fishery was the shortest on record. This years harvest of 75.2 million pounds exceeded the pre-season GHL midpoint of 55.7 million by 35% (Table 6-25). Total harvest from the Eastern and Western Subdistricts was 39.7 and 35.5 million pounds respectively (Table 6-26). Catches in the Eastern Subdistrict came predominantly from the southwest portion of the subdistrict in areas immediately west of the Pribilof Islands. Catches from the Western Subdistrict were distributed throughout the southern portion of the area between the ice edge and the 100 fathom contour (Table 6-27). This years closure occurred approximately 2 weeks earlier than the 1994 season closure on March 1, and almost a month earlier than the March 15 closure of the 1993 season.

Overall CPUE (in crabs per pot pull) in the 1995 fishery averaged 102 in the Eastern Subdistrict and 142 in the Western Subdistrict. This is a reduction from the 149 and 173 observed for these same two areas respectively during the 1994 fishery. Fishery CPUE for the entire Bering Sea District for the 1995 fishery was 117. This compares to a district average of 160 in 1994 and 175 in 1993. Reductions in performance of the 1995 fishery are believed to be a result of reduced stock abundance and a reduction in fishing area available due to the progressively southward encroachment of sea ice.

Crabs averaged 1.2 pounds in this year's fishery compared to 1.3 pounds in 1994 and 1.4 pounds in 1993. Reduced average weights are thought to be caused by a larger percentage of sub 4" crab retained during the 1995 fishery. Based on length frequency data collected dockside, 17% of legal *C. opilio* crab landed were under 4" in carapace width. In 1994 sub 4" crab made up approximately 12% of the harvest.

Despite a smaller harvest in 1995, approximately one half that landed in 1994, the exvessel value of the 1995 fishery was $186.1 million, only a 3.3% decrease from the 1994 fishery value of $192.4 million. This was due to an exvessel value of $2.43 per pound in 1995, the highest on record. The exvessel valued paid to fishermen in 1994 was $1.30 per pound compared to $0.75 per pound in 1993.

C. opilio Stock Status

Data from the 1994 NMFS Bering Sea trawl survey, presented in the NMFS Alaska Fisheries Science Center Processed Report 94-07, indicated total abundance of large males (over 4 inches CW) was 71.6 million crabs, a 47% decrease from the 1993 assessment survey. According to survey results 45% of large males were located in the Eastern Subdistrict and sublegal males decreased by 24% since 1993. However, abundance of juvenile males was similar to 1993 estimates. No significant change in abundance of large and small females was apparent. While the number of small male crab showed a 24% decrease, total abundance in this size category is still relatively high. It is unknown at this time if these small male crab, located mostly in the northern part of the district, will migrate south and continue to grow. Based on the uncertainty of these crab recruiting into the fishery NMFS forecasts a continued decline in the fishable stock in the near future.

BERING SEA *CHIONOECETES TANNERI*

Historic Background

The first reported landings of *Chionoecetes tanneri* a deep water Tanner crab species, from the Bering Sea occurred in 1988 after the Alaska Board of Fisheries established a special permit season for deep water Tanner crab during their spring meeting. Two vessels, both catcher processors, fished at depths of 400 to 700 fathoms in the Eastern Subdistrict. Prior to this no market existed for

C. tanneri and few, if any, were sold commercially. No commercial landings were reported from 1989 through 1992.

In May of 1993, one vessel targeted *C. tanneri* in the Bering Sea, and as commercial interest increased, five additional vessels entered the fishery. Differential pot limits based on vessel size, enacted by the Board of Fisheries in the Spring of 1993, were not applied to vessels fishing for deep water Tanner crab in the Bering Sea until 1994. Also in 1993, the department restricted the harvest to males *C. tanneri* 5 inches or greater in carapace width.

To obtain biological information on *C. tanneri* crab the department implemented 100% observer coverage in 1994, as allowed by the permit provisions in 5 AAC 35.082. Effort and landings decreased during 1994 when Tanner crab pot limits for the Bering Sea were applied to vessels fishing for deep water Tanner crab.

1995 Fishery

A total of eight vessels made 47 landings for a harvest of 966,846 pounds of C. *tanneri* crabs through December 24. The average weight of crab retained in 1995 was 2.1 pounds per crab with an CPUE of 8 crabs per pot. This compares to 1994 when four vessels made 12 landings for a total of 332,454 pounds. In 1994 the average weight of *C. tanneri* landed was 2.0 pounds and the CPUE was 11 crabs per pot (Table 6-28).

Preliminary information indicates that vessels fished an average of 368 pots and made 55,901 pot pulls during 1995 season. The 1995 exvessel price for *C. tanneri* was $1.40 per pound for a total fishery value in excess of $1.26 million (Table 6-29).

During the March 1995 Board of Fisheries meeting, the board determined pot limits established for the Bering Sea Tanner crab fisheries (*C. bairdi* and *C. opilio*) were not intended to apply to deep water Tanner crab species (*C. tanneri* and *C. angulatus*). A news release issued April 28 announced the removal of pot limits effective May 12, 1995. All vessels which fished during 1995 were again required to obtain shellfish observers as 100% coverage was again mandatory.

Limited effort for the 1995 season began in July and remained low throughout the season. The maximum of 3 vessels fished this area at the same time during 1995. Fishing effort was spread between 15 statistical areas, although the majority of retained crabs came from the area below the Pribilof Islands.

Status of Stocks

No stock assessment surveys are conducted for *C. tanneri* crabs. Consequently no population estimates are available. (Onboard observers have been required on all vessels targeting *C. tanneri*, beginning in 1994.) This measure has provided information on the size, sex and species composition of the non-retained catch.

BERING SEA *CHIONOECETES ANGULATUS*

Introduction

The Bering Sea District of Statistical Area J includes all waters of the Bering Sea north of latitude of Cape Sarichef (54°36') and east of the U.S. - Convention Line of 1867. This district is divided into the Eastern and Western Subdistricts, east and west of 173° West Longitude. The Eastern Subdistrict is further divided into the Norton Sound and General Sections.

Historic Background

Chionoecetes angulatus in the Bering Sea management area have been harvested in the past as a bycatch in the *C. tanneri* fishery. However, fish tickets recorded prior to 1995 do not show a commercial harvest. Vessel operators verbally reported the retention of *C. angulatus* before 1994. In 1994 with 100 percent observer coverage, an incidental catch of this crab species was reported in observer sample data.

1995 Fishery

A total of eight vessels registered for *C. angulatus* in the Bering Sea registration area during the 1995 season. Four vessels made 25 landings for a season harvest of 49,007 pounds. Vessels fished from July through December with the majority of the harvest occurring in July and August. Average weight was 1.2 pounds with a catch rate (CPUE) of 1.3 crab per pot pull. Two vessels made at least one delivery each in which *C. angulatus* was the target species.

Stock Status

There are no population estimates for Bering Sea *Chionoecetes angulatus.* Limited information is being collected by observers required aboard 100% of the vessels participating under terms of the permit required for this fishery.

BERING SEA KING AND TANNER CRAB BUOY IDENTIFICATION TAGS ANNUAL REPORT

Introduction and Background

The Alaska Board of Fisheries 1992 Spring meeting discussed gear limitations for Bering Sea/Aleutian Islands king and Tanner crab fisheries. The Board had accepted an agenda change request on March 20, 1991 to hear this issue out of cycle in response to a request submitted by the

industry. The request was supported by preliminary Alaska Department of Fish and Game data that indicated high levels of gear deployed in the Bering Sea fisheries were creating conservation and management difficulties.

The Board decided to limit the number of pots that a vessel may use when harvesting Bering Sea king and Tanner crab. New regulations became effective on August 1, 1992. State statute mandates the program be self supporting through buoy identification sales.

On November 10, 1992 a temporary suspension of Buoy ID sticker requirements was issued due to the failure of stickers to adhere to buoys after extended exposure to water and weather. Pot limits, however, remained in effect for the Bering Sea Tanner crab fisheries.

On November 30,1992 National Marine Fisheries Service officially repealed the Bering Sea pot limits because of inconsistencies in the Bering Sea\Aleutian Island king and Tanner crab Federal Management Plan.

At the February 1993 Board of Fisheries meeting, the Board passed differential pot limit regulations based upon overall vessel length. According to the new regulations, vessels in excess of 125 feet in length overall are entitled to the maximum number of pots allowed for a fishery, while vessels 125 feet and under in length overall are allowed 80% of the number allowed for the larger vessels size class. The actual number of pots allowed is varies for each fishery, (Table 6-30).

Implementation

According to **AS 16.05.050 POWERS AND DUTIES OF THE COMMISSIONER.**

> The commissioner has,. . . The following powers and duties: (16) . . . to establish and charge fees equal to the cost of services provided by the department . . .

and **AS 16.05.632 IDENTIFICATION OF SHELLFISH POTS OR BUOYS, OR BOTH, USED IN THE TAKING OF KING CRAB AND REQUIREMENTS FOR BUOYS.**

> (a) Registration tags for the identification of shellfish pots or buoys, or both, used in the taking of king crab are required in areas in which the board has regulations limiting the total amount of shellfish pots allowed per vessel. Registration tags shall (6) be issued and renewed for a fee equal to the cost of obtaining the registration tags plus reasonable administrative costs, under procedures determined to be appropriate by the Department of Fish and Game.

Beginning with the 1992/1993 Bristol Bay and Bering Sea crab seasons the Department leased additional office space and employed a Fish and Wildlife Technician III to administer the buoy identification sales program.

In May 1993 the decision was made to use a heavy duty nylon zip tie tag. The tags are manufactured in a different color series for each fishery with an imposed pot limit. These tags have a 1.5 inch by 4 inch flag printed with a unique number. (Figure 6-4).

Replacement Tags

The Board considered non-replacement of lost pots and double tag requirements and found that the hardship to the industry, by not providing some replacement program, would be unnecessarily burdensome. The Division of Fish and Wildlife Protection anticipated difficulty proving cases if replacement pots were allowed. Special conditions regarding replacement were included in the regulations to accommodate the concerns of Fish and Wildlife Protection, but the Board rejected a double sticker requirement.

The replacement of lost tags is permitted by **5 AAC 34.825.** (f), **5 AAC 34.925.** (j), and **5 AAC 35.525.** (i)

> (4) . . . replacement of lost identification tags is permitted if the vessel operator and three crewmembers, in person, submit to the ADF&G office in Dutch Harbor, a sworn statement or affidavit, describing how the tags were lost and listing the numbers of the lost tags.

An official AFFIDAVIT TO OBTAIN REPLACEMENT BUOY IDENTIFICATION STICKERS, reviewed and approved by Fish and Wildlife Protection, is available in the Dutch Harbor office.

During the interim between the 1994 Bristol Bay red king crab and Bering Sea *C. bairdi* fisheries and again prior to the 1995 *C. opilio* season numerous complaints were received in the Dutch Harbor office regarding problems that vessels delivering to remote areas such as King Cove and St. Paul would have in replacing tags under the current regulations. Most fishermen felt the cost in time and/or money used to transport the permit holder and three crew members to Dutch Harbor to fill out required forms and purchase replacement tags was prohibitive. Some expressed feelings that the present requirement would force them to fish illegally rather than conform to the regulations. To compound problems, after the New Year, many vessels were operated by alternate skippers who inherited the arduous task of determining which tags and how many were missing before they could apply for replacements. Issuing a set of tags coded and colored specifically for the *C. opilio* season was a common suggestion since tags, other than those purchased as replacements, can be obtained through the mail or by an agent. Consequently separate tag sets were manufactured for the 1995 *C. opilio* season. A total of 88 replacement tags were issued during all the 1994/95 Bering Sea crab fisheries. In contrast, a total of 3,510 replacement tags were issued during the 1993/94 Bering Sea Tanner crab fisheries. Reissuing tags for the January *C. opilio* season has averted a repeat of the 1993/94 tag replacement problems.

Vessel Length Verification

All vessels in excess of 125 feet in length overall wishing to obtain the maximum number of buoy identification tags must present an original or notarized copy of valid documentation from the U.S. Coast Guard or certified marine surveyor showing the vessel to be in excess of 125 feet overall. Overall length is defined as the horizontal distance, rounded to the nearest foot, between the foremost part of the stem and the aftermost part of the stern, excluding bowsprits, rudders, outboard motor brackets and similar fittings or attachments. This definition of length overall is found in the U.S. Code of Federal Regulations, Shipping, 46 CFR 69.9 and Fishery Conservation and Management, 50 CFR 672.2.

The vessel operator/permit holder is required to show documentation of vessel length the first time buoy tags are purchased and any time a change to the vessel's overall length occurs. The department's Dutch Harbor office has established a qualifying list of vessels where lengths are documented in excess of 125 feet. A total of 112 vessels are presently on the department's qualifying list.

Administration of the Buoy Identification Program

Bering Sea buoy identification tags are issued from ADF&G office in Dutch Harbor and in lesser quantities from the ADF&G office in Kodiak. An administrative fee of $2.00 per tag is currently charged. Tags are issued only if a valid permit card for the specified fishery has been issued to the person purchasing tags. Uniquely numbered tag sets are assigned to vessel ADF&G numbers which guarantee that only one set of tags is issued per vessel.

The department will, when requested, send from the Dutch Harbor office only, buoy tags through the U.S. Mail, priority, insured with a return receipt. Two weeks prior to each season the department discontinues tag mailings because of the potential logistical problems that can be caused by delayed mail service.

1995/96 Tag Sales

St. Matthew blue king crab tag sales totaled 90 sets and Pribilof red king crab tag sales totaled 130 sets (Table 6-31). Forty eight of these sales were through the U.S. mail. Included in the total number of tag sales are the Kodiak office sales of 16 tag sets for St. Matthew, and 29 sets for the Pribilof fishery.

Bering Sea *C. Bairdi* tag sales totaled 196 sets. Thirty-four of these sales were processed through mail order. Included in the total number of tag sales are the Kodiak office sales of 35 sets.

Bering Sea *C. Opilio* tag sales totaled 238 sets. Thirty of these sales were processed through mail order. Included in the total number of tag sales are the Kodiak office sales of 48 sets.

Table 6-1. Bering Sea, Area Q, Pribilof District historic king crab catch statistics, 1973/74-1995.

Year[a]	Number of Vessels	Number of Landings	Number of Crab[b]	Harvest[b,c]	Pots Pulled	CPUE[d]	Average Weight[c]	Length[e]	Deadloss[c]
1973/74	8	13	174,420	1,276,533	6,814	26	7.3	N/A	0
1974/75	70	101	908,072	7,107,294	45,518	20	7.8	157.8	0
1975/76	20	54	314,931	2,433,714	16,297	19	7.7	159.1	0
1976/77	47	113	855,505	6,611,084	71,738	12	7.7	158.1	0
1977/78	34	104	807,092	6,456,738	106,983	8	7.9	158.9	159,269
1978/79	58	154	797,364	6,395,512	101,117	8	8.1	159.3	63,140
1979/80	46	115	815,557	5,995,231	83,527	9	7.7	155.9	284,555
1980/81	110	258	1,497,101	10,970,346	167,684	9	7.3	155.7	287,285
1981/82	99	312	1,202,499	9,080,729	176,168	7	7.6	158.2	250,699
1982/83	122	281	587,908	4,405,353	127,728	5	7.5	159.8	51,703
1983/84	126	221	276,364	2,193,395	86,428	3	7.9	159.9	4,562
1984/85	16	25	40,427	306,699	15,147	3	7.6	155.5	0
1985/86	26	49	77,607	532,735	23,483	3	6.9	146.5	7,500
1986/87	16	25	36,988	258,939	15,800	2	7.0	N/A	5,450
1987/88	38	68	95,131	701,337	40,507	2	7.4	152.7	9,910
1988/89				SEASON CLOSED					
1989/90				SEASON CLOSED					
1990/91				SEASON CLOSED					
1991/92[f]				SEASON CLOSED					
1992/93				SEASON CLOSED					
1993[g]	112	135	380,217	2,607,634	35,942	11	6.9	154.4	0

-Continued-

Table 6-1. (Page 2 of 2)

Year[a]	Number of Vessels	Number of Landings	Number of Crab[b]	Harvest[b,c]	Pots Pulled	CPUE[d]	Average Weight[c]	Length[e]	Deadloss[c]
1994[f]	104	121	167,520	1,338,953	28,976	6	8.0	162.1	2,929
1995[g]	117	151	107,521	871,173	33,531	3.2	8.1	162.5	15,316
1995[h]	119	152	172,987	1,267,454	34,721	4.8	7.3		46,263

[a]Blue king crab, 1973 - 1988.
[b]Deadloss included.
[c]In pounds.
[d]Defined as catch per pot pull.
[e]Carapace length (millimeters).
[f]10,869 pounds illegal red king crab harvested.
[g]Red king crab.
[h]Blue king crab.

Table 6-2. Historic Bering Sea, Pribilof District king crab economic performance, 1980/81-1995.

		Season	Number of		Number of Pots		Value		Season Length	
Year[a]	GHL[b]	Total[c]	Vessels	Landings	Registered	Pulled	Exvessel	Total[d]	Days	Dates
1980/81	5.0-8.0	10.7	110	258	31,636	167,684	$ .90	$ 9.6	(60)	9/15-11/15
1981/82	5.0-8.0	9.1	99	312	25,408	176,168	$ 1.50	$13.6	(47)	9/10-10/28
1982/83	5.0-8.0	4.4	122	281	34,429	127,728	$ 3.05	$13.4	(15)	9/10-09/25
1983/84	4.0[e]	2.2	126	221	36,439	86,428	$ 3.00	$ 6.6	(10)	9/01-09/11
1984/85	0.5-1.0	0.3	16	25	3,122	15,147	$ 2.50	$ 0.1	(15)	9/01-09/16
19985/86	0.3-0.8	0.5	26	49	6,038	23,483	$ 2.90	$ 1.4	(26)	9/25-10/21
1986/87	0.3-0.8	0.3	16	25	4,376	15,800	$ 4.05	$ 1.2	(55)	9/25-11/20
1987/88	0.3-1.7	0.7	38	68	9,594	40,507	$ 4.00	$ 2.8	(86)	9/25-12/20
1988/89				NO COMMERCIAL FISHERY						
1989/90				NO COMMERCIAL FISHERY						
1990/91				NO COMMERCIAL FISHERY						
1991/92				NO COMMERCIAL FISHERY						
1992/93				NO COMMERCIAL FISHERY						
1993[f]	3.4	2.6	112	135	4,860	35,942	$ 4.98	$13.0	(6)	9/15-09/21
1994[f]	2.0[e]	1.3	104	121	4,675	28,976	$ 6.00	$ 8.0	(6)	9/15-09/21
1995[f]	2.5[g]	0.9	117	151	5,400[g]	33,531	$ 3.37	$ 2.9	(7)	9/15-09/22
1995[h]	2.5[g]	1.2	119	152	5,400[g]	34,721	$ 2.92	$ 3.6	(7)	9/15-09/22

[a]Blue king crab, 1980 - 1988.
[b]Guideline Harvest Level.
[c]Millions of pounds, deadloss not included.
[d]Millions of dollars.
[e]Set not to exceed.
[f]Red king crab.
[g]Red and blue king crab.
[h]Blue king crab.

Table 6-3. Pribilof District red king crab catch by statistical area, 1995.

Stat Area	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead-loss[b]
685700	13	3,244	25,393	1,737	7.8	1.9	604
685730	3	216	2,026	605	9.4	.4	84
695631	30	20,775	164,595	4,562	7.9	4.6	983
695700	69	37,366	303,108	14,326	8.1	2.6	11,315
695730	4	1,754	15,517	1,230	8.8	1.4	146
705630	21	10,776	89,438	2,085	8.3	5.2	555
705701	29	12,105	102,667	4,156	8.5	2.9	851
705702	25	14,847	119,721	2,956	8.1	5.0	467
Other[d]	5	6,438	48,708	1,874	7.6	3.4	311
TOTALS	151	107,521	871,173	33,531	8.1	3.2	15,316

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Includes 5 statistical areas.

Table 6-4. Pribilof District blue king crab catch by statistical area, 1995.

Stat Area	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead-loss[b]
685700	19	27,223	203,702	3,783	7.5	7.2	5,134
685730	4	8,118	59,051	960	7.3	8.5	5,180
695631	27	25,262	189,496	4,854	7.5	5.2	7,169
695700	68	75,032	539,700	14,536	7.2	5.2	23,270
695730	5	5,782	42,451	1,396	7.3	4.1	843
705630	17	3,206	22,407	1,789	7.0	1.8	233
705701	25	11,754	88,536	3,387	7.5	3.5	3,254
705702	26	10,469	76,126	2,335	7.3	4.5	723
Other[d]	5	6,141	45,985	1,679	7.5	3.7	457
TOTALS	1,152	172,987	1,267,454	34,721	7.3	5.0	46,263

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Includes 4 statistical areas.

Table 6-5. Historic blue king crab catch in the St. Matthew portion of statistical Area Q, 1977-1995.

Season	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	CPUE[c]	Percent Recruits	Average Weight[b]	Average Length[d]	Deadloss[b]
1977	10	24	281,665	1,202,066	17,370	16	7.0	4.3	130.4	129,148
1978	22	70	436,126	1,984,251	43,754	9	N/A	4.5	132.2	116,037
1979	18	25	52,966	210,819	9,877	5	80.8	4.0	128.8	128.8
1980					Confidential					
1981	31	119	1,045,619	4,627,761	58,550	18	N/A	4.4	N/A	53,355
1982	96	269	1,935,886	8,844,789	165,618	12	19.6	4.6	135.1	142,973
1983	164	235	1,931,990	9,454,323	133,944	14	26.7	4.8	137.2	828,994
1984	90	169	841,017	3,764,592	73,320	11	34.0	4.5	135.5	31,983
1985	79	103	484,836	2,427,110	51,606	9	9.0	5.0	139.0	2,613
1986	38	43	219,548	1,003,162	22,093	10	10.0	4.6	134.3	32,560
1987	61	62	234,521	1,075,179	28,440	8	5.0	4.6	134.13	400
1988	46	46	302,053	1,325,185	10,160	13	65.0	4.4	133.29	22,358
1989	69	69	247,641	1,166,258	30,853	8	9.0	4.7	134.55	3,754
1990	31	38	391,405	1,725,349	26,264	15	4.0	4.4	134.28	17,416
1991	68	69	726,519	3,372,066	37,104	20	12.0	4.6	134.1	216,459
1992	174	179	544,956	2,474,080	56,630	10	9.0	4.6	134.1	0
1993	92	136	629,874	2,999,921	58,647	11	6.0	4.8	135.4	0
1994	87	133	827,015	3,764,262	60,860	13	60.0	4.6	133.3	46,699
1995	90	111	666,905	3,166,093	48,560	13		4.8	135.0	90,191

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Carapace length (millimeters).

Table 6-6. Economic performance of the blue king crab fishery in the St. Matthew Island section of the Northern district of the Bering Sea, 1981-1995.

Year	GHL[a,b]	Season Total	Number of Vessels	Number of Landings	Number of Pots Registered	Number of Pots Pulled	Value Exvessel	Value Total[c]	Season Length (Days)	Season Length Dates
1981	1.5-3.0	4.6	31	119	2,960	58,550	$ 0.90	$ 4.1	(38)	7/15-8/21
1982	5.6	8.7	96	269	21,894	165,618	$ 2.00	$ 17.4	(15)	8/01-8/16
1983	8.0	8.6	164	235	38,000	133,944	$ 3.00	$ 25.8	(17)	8/20-9/06
1984	2.0-4.0	3.7	90	169	14,800	73,320	$ 1.75	$ 6.5	(7)	9/01-9/08
1985	0.9-1.9	2.4	79	103	13,000	51,606	$ 1.60	$ 3.8	(5)	9/01-9/06
1986	0.2-0.5	1.0	38	43	5,600	22,093	$ 3.20	$ 3.2	(5)	9/01-9/06
1987	0.6-1.3	1.1	61	62	9,370	28,440	$ 2.85	$ 3.1	(4)	9/01-9/05
1988	0.7-1.5	1.3	46	46	7,780	10,160	$ 3.10	$ 4.0	(4)	9/01-9/05
1989	1.7	1.2	69	69	11,983	30,853	$ 2.90	$ 3.5	(2.5)	9/01-9/04
1990	1.9	1.7	31	38	6,000	26,264	$ 3.35	$ 5.7	(6)	9/01-9/07
1991	3.2	3.2	68	69	13,100	37,104	$ 2.80	$ 9.0	(4)	9/16-9/20
1992	3.1	2.5	174	179	17,400	56,630	$ 3.00	$ 7.4	(2.5)	9/04-9/07
1993	4.4	3.0	92	136	5,895	58,647	$ 3.23	$ 9.7	(6)	9/15-9/21
1994	3.0	3.7	87	133	5,685	60,860	$ 4.00	$ 15.0	(7)	9/15-9/22
1995	2.4	3.1	90	111	5,970	48,560	$ 2.32	$ 7.1	(5)	9/15-9/20

[a]Guideline Harvest Level.
[b]Millions of pounds, deadloss not included.
[c]Millions of dollars.

Table 6-7. Northern District, Area Q, king crab harvest composition by fishing season, 1977-1995.

Season	Date Opened	Date Closed	Species	Harvest[a]	Minimum Size[b]	Price per Pound
1977	June 7	Aug. 16	Blue	1,202,066	5 1/2	$ 1.00
			Red	543,041	5	
1978	July 15	Sept. 3	Blue	1,984,251	5 1/2	$ 0.95
	July 15	Aug. 16	Red	2,007,910	4 3/4	
1979	July 15	Aug. 24	Blue	210,819	5 1/2	$ 0.70
	July 15	Aug. 16	Red	3,024,228	4 3/4	
1980	July 15	Sept. 3	Blue			$ 0.75
	July 15	July 31	Red[c]	353,683	4 3/4	
1981	July 15	Aug. 21	Blue	4,627,761	5 1/2	$ 0.90
	July 15	Sept. 3	Red[c]	63,983	4 3/4	
1982	Aug. 1	Aug. 16	Blue	8,844,789	5 1/2	$ 2.00
	Aug. 1	Aug. 16	Red[c]	3,690	4 3/4	$ 2.00
	May 1	Aug. 1	Brown	193,507	5 1/2	$ 2.00
1983[d]	Aug. 20	Sept. 6	Blue	9,506,880[e]	5 1/2	$ 3.00
	Aug. 20	Sept. 6	Red	1,635	4 3/4	$ 2.50
	May 1	Aug. 1	Brown		5 1/2	-
1984	Aug. 1	Sept. 8	Blue	3,764,592	5 1/2	$ 1.75
	Aug. 1	Sept. 8	Red[c]	-	4 3/4	-
	May 1	Dec. 31	Brown[d]	-	5 1/2	-
1985	Sept. 1	Sept. 6	Blue	2,427,110	5 1/2	$ 1.60
	Aug. 1	Sept. 6	NO CATCH REPORTED		4 3/4	-
	Jan. 1	Dec. 31	NO CATCH REPORTED		5 1/2	-
1986	Sept. 1	Sept. 6	Blue	1,003,162	5 1/2	$ 3.20
	Aug. 1	Sept. 6	NO CATCH REPORTED		4 3/4	-
	Jan. 1	Dec. 31	NO CATCH REPORTED		5 1/2	-
1987	Sept. 1	Sept. 5	Blue	1,075,179	5 1/2	$ 2.85
	Aug. 1	Sept. 5	NO CATCH REPORTED		4 3/4	-
	Jan. 1	Dec. 31	Brown	424,394	5 1/2	$ 2.60

- Continued -

Table 6-7. (page 2 of 2)

Season	Date Opened	Date Closed	Species	Harvest[a]	Minimum Size[b]	Price per Pound
1988	Sept. 1	Sept. 5	Blue	1,325,185	5 1/2	$ 3.10
	Aug. 1	Sept. 5	NO CATCH REPORTED		4 3/4	
	Jan. 1	Dec. 31	Brown	160,441	5 1/2	$ 3.10
1989	Sept. 1	Sept. 4	Blue	1,166,258	5 1/2	$ 2.90
			Blue	0[f]	5 1/2	NA
	Aug. 1	Sept. 4	Red[c]	4,518	4 3/4	NA
	Jan. 1	Dec. 31	Brown	4,407	5 1/2	NA
1990	Sept. 1	Sept. 7	Blue	1,725,349	5 1/2	$ 3.35
1991	Sept. 16	Sept. 20	Blue	3,372,066	5 1/2	$ 2.80
1992	Sept. 4	Sept. 7	Blue	2,474,080	5 1/2	$ 3.00
1993	Sept. 15	Sept. 21	Blue	2,999,921	5 1/2	$ 3.23
1994	Sept. 15	Sept. 22	Blue	3,764,262	5 1/2	$ 4.00
1995	Sept. 15	Sept. 20	Blue	3,166,093	5 1/2	$ 2.32

[a]In pounds, deadloss included.
[b]Carapace width in (inches).
[c]Does not include Norton Sound.
[d]Some of Northern District open until September 20.
[e]St. Lawrence Island harvest included, 1977 - 1983.
[f]Combined with red king crab to total 4,518 pounds.

Table 6-8. Comparative mid-point estimates, emergency order projections and actual harvests for the St. Matthew blue king crab fishery, 1983-1995.

Year	Guideline Harvest Levels[a]	GHL Mid-Point[a]	Actual Harvest	Projected Harvest
1983	8.0	-	9.5	8.0
1984	2.0 - 4.0	3.00	3.8	4.0
1985	0.9 - 1.9	1.40	2.4	2.0
1986	0.2 - 0.5	0.30	1.0	1.0
1987	0.6 - 1.3	.95	1.1	1.3
1988	0.7 - 1.5	-	1.3	1.5
1989	1.7	-	1.2	1.7
1990	1.9	-	1.7	1.9
1991	3.2	-	3.4	3.2
1992	3.1	-	2.5	3.1
1993	4.4	-	3.0	4.4
994	3.0	-	3.8	3.0
1995	2.4	-	3.2	2.4

[a]Millions of pounds.
[b]Deadloss included.

Table 6-9. Blue king crab catch by statistical area for the St. Matthew Island section of the Northern district of the Bering Sea. 1995.

Stat Area	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead-loss[b]
726001	80	422,860	2,025,814	30,926	4.8	14	57,673
726002	12	61,962	293,773	5,359	4.7	12	8,998
736001	35	160,463	741,395	11,109	4.6	14	22,103
Other[d]	5	21,620	105,111	1,166	4.8	18	1,417
Total	111	666,905	3,166,093	48,560	4.8	13	90,191

[a]Deadloss included.
[b]In Pounds.
[c]Defined as catch per pot pull.
[d]Includes 3 statistical areas.

Table 6-10. St. Matthew Blue King crab comparative average catches of catcher-processor vs. catcher-only vessels, 1990-1995.

	1995	1994	1993	1992	1991	1990
Number of Catcher-Processor Vessels	Confidential	6	3	8	9	7
Number of Catcher-only Vessels	89	87	89	166	59	24
Pounds of Catcher-Processor Harvest,	Confidential	352,069	165,625	191,801	740,687	447,320
Percent of Catcher-Processor Harvest	Confidential	10.7	5.5	7.7	22.0	25.9
Average Catcher-Processor Harvest	Confidential	58,678	55,208	23,975	82,298	63,903
Average Catcher-Only Harvest	34,964	39,221	31,846	13,749	44,600	53,251
Catcher-Processor Average CPUE	Confidential	14	14	16	26	15
Catcher-Only Average CPUE	14	14	11	9	18	15
Total Harvest	3,166,093	3,764,262	2,999,921	2,474,080	3,372,066	1,725,349
Average # Pots Pulled Catcher-Processor	Confidential	926	811	327	682	983
Average # Pots Pulled Catcher-Only	541	636	632	325	525	807
Catcher-Processor Harvest Range	Confidential	37,947-104,451	45,060-63,914	5,573-51,943	41,812-129,038	27,403-111,507

Table 6-11. Bristol Bay, Area T of the Bering Sea, historic red king crab catch statistics, 1966-1995.

Year	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	Length[c]	CPUE[d]	% Old Shell	Deadloss[b]
1966	9	15	140,554	997,321	2,720	7.1		52		
1967	20	61	397,307	3,102,443	10,621	7.8		37		
1968	59	261	1,278,592	8,686,546	47,496	6.8		27		
1969	65	377	1,749,022	10,403,283	98,426	5.9		18		
1970	51	309	1,682,591	8,559,178	96,658	5.1		17		
1971	52	394	2,404,681	12,955,776	118,522	5.4		20		
1972	64	611	3,994,356	21,744,924	205,045	5.4		20		
1973	67	441	4,825,963	26,913,636	194,095	5.6		25		N/A
1974	104	605	7,710,317	42,266,274	212,915	5.5		36		N/A
1975	102	592	8,745,294	51,326,259	205,096	5.7		43		1,639,483
1976	141	984	10,603,367	63,919,728	321,010	6.0	148	33	27.4	875,327
1977	130	1,020	11,733,101	69,967,868	451,273	5.9	148	26	13.0	730,279
1978	162	926	14,745,709	87,618,320	406,165	5.8	147	36	6.9	1,273,037
1979	236	889	16,808,605	107,828,057	315,226	6.4	152	53	10.4	3,555,891
1980	236	1,251	20,845,350	129,948,463	567,292	6.2	151	37	11.0	1,858,668
1981	177	1,026	5,307,947	33,591,368	542,250	6.3	151	10	47.4	711,289
1982	90	255	541,006	3,001,210	141,656	5.6	145	4	24.6	95,834
1983				NO COMMERCIAL FISHERY						
1984	89	137	794,040	4,182,406	112,556	5.2	142	7	26.5	35,601
1985	128	130	796,181	4,174,953	85,003	5.5	142	9	25.8	6,436
1986	159	230	2,099,576	11,393,934	178,370	5.4	142	12	25.5	284,127
1987	236	311	2,122,402	12,289,067	220,871	5.8	145	9	19.0	120,388
1988	200	201	1,236,131	7,387,795	153,004	6.0	147	8	15.1	23,537
1989	211	287	1,684,706	10,264,791	208,684	6.1	148	8	17.7	81,334
1990	240	331	3,120,326	20,362,342	262,131	6.5	152	12	14.7	116,527
1991[e]	302	324	2,630,446	17,177,894	227,555	6.5	152	12	12.1	119,670
1992[e]	281	289	1,196,958	8,043,018	205,940	6.7	153	6	22.3	9,000
1993[e]	292	361	2,261,287	14,628,639	253,794	6.5	152	9	15.2	133,442
1994				NO COMMERCIAL FISHERY						
1995				NO COMMERCIAL FISHERY						

[a]Deadloss included.
[b]In Pounds.
[c]Carapace length (millimeters).
[d]Defined as catch per pot pull.
[e]Includes Test Fishery.

Table 6-12. Historic Bristol Bay red king crab economic performance.

Year	GHL[a]	Season Total[b]	Number of Vessels	Number of Landings	Number of Pots Registered	Number of Pots Pulled	Value Exvessel	Value Total[c]	Season Length Days	Season Length Dates
1980	70 - 120	128.1	236	1,251	78,352	567,292	$ 0.90	$115.3	(40)	09/10-10/20
1981	70 - 100	33.6	177	1,026	75,756	542,250	$ 1.50	$ 49.3	(91)	09/10-12/15
1982	10 - 20[d]	2.9	90	255	36,166	141,656	$ 3.05	$ 8.8	(30)	09/10-10/10
1983	NO COMMERCIAL FISHERY									
1984	2.5 -6.0	4.1	89	137	21,762	112,556	$ 2.60	$ 10.8	(15)	10/01-10/16
1985	3.0 -5.0	4.2	128	130	30,117	85,003	$ 2.90	$ 12.1	(8)	09/25-10/02
1986	6.0-13.0	11.1	159	230	32,468	178,370	$ 4.05	$ 45.0	(13)	09/25-10/07
1987	8.5-17.7	12.2	236	311	63,000	220,871	$ 4.00	$ 48.7	(12)	09/25-10/06
1988	7.5	7.4	200	201	50,099	153,004	$ 5.10	$ 37.6	(8)	09/25-10/02
1989	16.5	10.2	211	287	55,000	208,684	$ 5.00	$ 50.9	(12)	09/25-10/06
1990	17.1	20.2	240	331	69,906	262,131[d]	$ 5.00	$101.2	(12)	11/01-11/13
1991	18.0	17.1[e]	302	324	89,068	227,555	$ 3.00	$ 51.2	(7)	11/01-11-08
1992	10.3	8.0[e]	281	289	68,189	205,940	$ 5.00	$ 40.0	(7)	11/01-11/08
1993	16.8	14.6[e]	292	361	58,881	253,794	$ 3.80	$ 55.1	(9)	11/01-11/10
1994	NO COMMERCIAL FISHE.R.Y									
1995	NO COMMERCIAL FISHERY									

[a]Guideline Harvest Level (millions of pounds).
[b]Millions of pounds, deadloss not included.
[c]Millions of dollars.
[d]Inseason revision to 4.7 million pounds.
[e]Includes test fishery.

Table 6-13. Bristol Bay red king crab harvest composition by fishing season.

Season	Date Opened-Closed	Harvest[a]	Percent Recruit[b]	Percent Postrecruit[b]	Size Limit[c]	Price Per Pound
1973	06/15-09/09	26.9	63	37	6¼	$0.84
1974	07/29-10/12	42.2	60	40	6¼	$0.38
1975	08/01-11/16	51.3	21	79	6¼[d]	$0.38
1976	08/15-12/07	63.9	56	44	6½	$0.58
1977	09/15-12/08	70.0	67	33	6½	$1.11
1978	09/10-10/23	87.6	75	25	6½	$1.23
1979	09/15-10/14	107.8	47	53	6½	$1.01
1980	09/10-10/20	129.9	44	56	6½	$0.90
1981	09/10-10/20	33.6	-	-	6½	-
	10/25-12/15	1.5	14	86	7	$1.50
1982	09/10-10/10	3.0	68	32	6½	$3.05
1983		NO COMMERCIAL FISHERY				
1984	10/01-10/16	4.2	59	41	6½	$2.60
1985	09/25-10/02	4.2	66	34	6½	$2.90
1986	09/25-10/07	11.4	65	35	6½	$4.05
1987	09/25-10/06	12.3	77	23	6½	$4.00
1988	09/25-10/02	7.4	59	41	6½	$5.10
1989	09/25-10/06	10.3	58	42	6½	$5.00
1990	11/01-11/13	20.4	49	51	6½	$5.00
1991	11/01-11/08	17.2	44	56	6½	$3.00
1992	11/01-11/08	8.0	33	67	6½	$5.00
1993	11/01-11/10	14.6	33	67	6½	$3.80
1994		NO COMMERCIAL FISHERY				
1995		NO COMMERCIAL FISHERY				

[a]Deadloss included, millions of pounds.

[b]Recruits figured at 149 mm - all previous years, 155 mm.

[c]Minimum carapace width in inches.

[d]6½ inches after 11/01.

Table 6-14. Historic brown king crab catch in the Pribilof District of the Bering Sea, Area Q.

Year	Number of Vessels	Number of Landings	Crab[a]	Harvest[a,b]	Pots Pulled	CPUE[c]	Average Weight[b]	Average Length[d]	Deadloss[b]
1982/83[g]	10	19	15,330	69,970	5,252	3	4.6	151.0	570
1981/82	Confidential								
1982/83[e]	10	19	15,330	69,970	5,252	3	4.6	151.0	570
1983/84[f]	50	115	253,162	856,475	26,035	10	3.4	127.0	20,041
1984[g]	NO REPORTED LANDINGS								
1985	Confidential								
1986	Confidential								
1987	Confidential								
1988	Confidential								
1989	Confidential								
1990	NO REPORTED LANDINGS								
1991	Confidential								
1992	Confidential								
1993	5	15	17,643	67,458	15,395	1	3.8	N/A	0
1994	3	5	21,477	88,985	1,845	12	4.1	N/A	730
1995	7	22	82,456	341,700	9,481	9	4.1	N/A	716

[a]Deadloss included
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Carapace length (millimeters).
[e]Six and one-half inch size limit.
[f]Five and one-half inch size limit.
[g]Permit fishery July through December.

Table 6-15. Historic brown king crab catch in the Northern District of the Bering Sea, Area Q.

Year	Number of Vessels	Number of Landings	Crab[a]	Harvest[a,b]	Pots Pulled	CPUE[c]	Average Weight[b]	Average Length[d]	Deadloss[b]
1982/83	22	30	51,714	193,507	7,825	6	3.7	138.0	957
1983/84			NO	REPORTED	LANDINGS				
1985			NO	REPORTED	LANDINGS				
1986			NO	REPORTED	LANDINGS				
1987	11	29	101,618	424,394	14,525	7	4.2	142.0	11,750
1988	11	23	36,270	160,441	11,672	3	4.4	150.0	14,000
1989				Confidential					
1990			NO	REPORTED	LANDINGS				
1991			NO	REPORTED	LANDINGS				
1992				Confidential					
1993			NO	REPORTED	LANDINGS				
1994				Confidential					
1995	4	4	245	1,200	383	1	4.9	N/A	0

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Carapace length (millimeters).

Table 6-16. Historic Korean hair crab catch statistics, by season, for the Bering Sea.

Year	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	CPUE[c]	Average Weight[b]	Average Length	Deadloss[b]
1978/79	11	16	2,457	5,213	9,908	1	2.1	111.8	0
1979/80	9	17	25,417	53,914	14,506	2	2.1	114.5	0
1980/81	67	192	1,127,309	2,439,483	172,695	7	2.2	104.8	265,369
1981/82	48	159	466,560	932,584	117,518	4	2.0	103.1	29,749
1982/83	52	161	575,453	1,211,420	84,346	7	2.1	103.2	122,456
1983/84	19	48	200,670	406,538	20,414	10	2.0	-	28,062
1984[e]	7	26	197,209	396,630	22,392	9	2.0	-	19,436
1985[e]	3	9	34,410	66,042	3,905	8	2.0	-	593
1986[e]	3	7	7,289	14,835	4,720	1	2.0	-	500
1987[e]				CONFIDENTIAL					
1988[e]				NO FISHING					
1989[e]				NO FISHING					
1990[e]				NO FISHING					
1991[e]	7	42	441,533	377,708	44,444	10	0.9	-	0
1992[e,f]	9	20	203,758	240,767	38,808	5	1.2	-	11,495
1992[e,g]	10	47	1,127,948	1,198,590	125,943	9	1.1	83.1	65,674
1993[e,f]	4	5	2,347	3,038	9,345	0.25	1.3	84.4	0
1993/94[e,g,h,k]	19	129	1,936,795	2,331,686	585,913	3	1.2	88.0	124,596
1994[e,g]	10	55	897,070	1,199,246	287,954	3	1.3	91.0	49,275
1995[e,g]	21	81	1,485,097	2,059,988	441,494	3	1.4		73,882

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]In millimeters.
[e]Permit fishery.
[f]Spring fishery.
[g]Fall fishery.
[h]Fishery opened Nov. 1, 1993 and closed April 20, 1994.
[k]Includes 7 vessels which landed hair crab incidental to *C. bairdi*.

Table 6-17. Historic Bering Sea Korean hair crab economic performance, 1978/79-1995.

Year	GHL[a,b]	Season Total[b]	Number of Vessels	Number of Landings	Number of Pots Registered	Number of Pots Pulled	Value Exvessel	Value Total[c]	Season Length (Days)	Season Length Dates
1978/79	NA	0.01	11	16		9,908	$0.52-$0.55	$0.01	(257)	04/19-12/31
1979/80	NA	0.1	9	17		14,506	$0.75	$0.04	(244)	01/01-08/30
1980/81[d]	NA	2.2	67	192		172,695	$0.80	$1.7	(242)	11/01-06/30[k]
1981/82	NA	0.9	48	159		117,518	$0.55	$0.05	(288)	11/01-08/15
1982/83	NA	1.1	52	161		84,346	$0.65	$0.7	(297)	10/08-08/01
1983/84	NA	0.4	19	48		20,414	$1.20	$0.5	(335)	08/01-06/30
1984[e]	NA	0.4	7	26		22,392	$1.60	$0.6	(184)	07/01-12/31
1985[e]	NA	0.1	3	9		3,905	$1.60	$0.1	(365)	01/01-12/31
1986[e]	NA	0.01	3	7		4,720	$1.15	$0.02	(365)	01/01-12/31
1987[e]	NA				CONFIDENTIAL				(365)	01/01-12/31
1988[e]					NO FISHING					
1989[e]					NO FISHING					
1990[e]					NO FISHING					
1991[e]	NA	0.4	7	42		44,444	$3.08	$1.2	(365)	01/01-12/31
1992[e,f]	NA	0.2	9	20		38,808	$2.25	$0.5	(32)	01/01-06/04
1992[e,g]	NA	1.1	10	47		125,943	$2.46	$2.8	(156)	10/01-11/01
1993[e,f]	NA	0.01	4	5		9,345	NA	NA	(45)	04/01-05/15
1993/94[e,g,h]	3.0[m]	2.2	19	129	14,345	585,913	$2.42	$5.3	(171)	11/01-04/20
1994[e,g]	1.1	1.1	10	55	13,350	287,954	$3.60	$3.9	(32)	11/01-12/12
1995[e,g]	1.8	2.1	21	81	25,750	441,494	$2.87	$6.0	(25)	11/01-11/26

[a] Guideline harvest level.
[b] Millions of pounds.
[c] Millions of dollars.
[d] Season opened within three miles year round.
[e] Permit fishery.
[f] Spring fishery.
[g] Fall fishery.
[h] Includes 7 vessels which landed hair crab incidential to *C. bairdi*.
[k] Emergency Order reopened within three miles.
[m] GHL was 2.5 and 0.5 million pounds West and East of 168° W. long., respectively.

Table 6-18. Historic Bering Sea *C. bairdi* catch statistics by season, 1968-1995.

Year	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	CPUE[c]	Average Weight[b]	Width[d]	% New Shell	Deadloss[b]
1968	NA	7	6,400	17,900	1,400	5	2.8	-	-	NA
1969	NA	131	353,300	1,008,900	29,800	12	2.9	-	-	NA
1970	NA	66	482,300	1,014,700	16,400	29	2.1	-	-	NA
1971	NA	22	61,300	166,100	7,300	8	2.7	-	-	NA
1972	NA	14	42,061	107,761	4,260	10	2.6	-	-	NA
1973	NA	44	93,595	231,668	15,730	6	2.5	-	-	NA
1974	NA	69	2,531,825	5,044,197	22,014	115	2.0	-	-	NA
1974/75	28	80	2,773,770	7,028,378	38,462	72	2.5	-	-	NA
1975/76	66	304	8,956,036	22,358,107	141,206	63	2.5	-	-	NA
1976/77	83	541	20,251,508	51,455,221	297,471	68	2.5	-	-	NA
1977/78	120	861	26,350,688	66,648,954	516,350	51	2.5	152.8	88.0	218,099
1978/79	144	817	16,726,518	42,547,174	402,697	42	2.5	152.7	95.0	76,000
1979/80	152	804	14,685,611	36,614,315	488,434	30	2.5	151.4	90.0	56,446
1981	165	761	11,845,958	29,630,492	559,626	21	2.5	149.4	86.6	101,594
1982	125	791	4,830,980	11,008,779	490,099	10	2.3	148.8	85.4	138,159
1983	108	448	2,286,756	5,273,881	282,006	8	2.3	148.8	70.5	60,029
1984	41	134	516,877	1,208,223	61,357	8	2.3	146.5	40.0	5,025
1985	44	166	1,283,474	3,151,498	104,707	12	2.4	150.0	65.0	14,096
1986	SEASON CLOSED									
1987	SEASON CLOSED									
1988	98	248	897,059	2,210,394	112,334	8	2.5	143.5	70.2	10,724
1989	109	359	2,907,021	7,012,965	184,892	16	2.4	149.4	80.8	34,664
1990	179	1,032	10,717,924	24,549,299	711,137	15	2.3	148.1	96.5	87,475
1990/91	255	1,756	16,608,625	40,081,555	883,391	19	2.4	149.7	95.3	210,769
1991/92	285	2,339	12,924,034	31,796,381	1,244,633	10	2.5	150.4	93.2	279,741
1992/93	294	2,084	15,265,880	35,130,866	1,200,885	13	2.3	148.0	90.5	343,955
1993/94	296	862	7,235,498	16,891,320	576,464	13	2.3	150.7	93.9	258,389
1994	183	349	3,351,639	7,766,886	249,536	13	2.3	150.0	92.5	132,780
1995	196	256	1,877,303	4,233,061	247,853	8	2.3			44,508

[a]Deadloss included.
[b]In Pounds.
[c]Defined as catch per pot pull.
[d]Carapace width in millimeters.

Table 6-19. Historic Bering Sea *C. bairdi* catch by subdistrict, 1974/75-1995.

Season	Subdistrict	Number of Vessels	Number of Landings	Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Deadloss[b]
1974/75	Southeastern		72	2,526,687	6,504,984	32,275	2.6	78	0
	Pribilofs		8	247,083	523,394	3,923	2.1	63	0
	TOTAL	28	80	2,773,770	7,028,378	38,462	2.5	72	0
1975/76	Southeastern		230	6,682,232	16,643,194	106,445	2.5	63	0
	Pribilofs		74	2,273,804	5,714,913	34,761	2.5	65	0
	TOTAL	66	304	8,956,036	22,358,107	141,206	2.5	63	0
1976/77	Southeastern		437	16,089,057	41,007,736	233,667	2.6	69	0
	Pribilofs		104	4,162,451	10,447,485	63,804	2.5	65	0
	TOTAL	83	541	20,251,508	51,455,221	297,471	2.5	68	0
1977/78	Southeastern		706	21,055,527	53,278,012	408,437	2.5	52	0
	Pribilofs		155	5,210,170	13,152,843	107,913	2.5	48	0
	TOTAL	120	861	26,350,688	66,648,954	516,350	2.5	51	218,099
1978/79	Southeastern		758	15,601,891	39,694,205	356,594	2.5	44	75,400
	Pribilofs		59	1,124,627	2,852,969	46,103	2.5	24	600
TOTAL		144	817	16,726,518	42,547,174	402,697	2.5	42	76,000

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Table 6-19. (page 2 of 4)

Season	Subdistrict	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Deadloss[b]
1979/80	Southeastern		789	14,329,889	35,724,003	476,410	2.5	30	56,446
	Pribilofs		15	355,722	890,312	12,024	2.5	30	0
	TOTAL	152	804	14,685,611	36,614,315	488,434	2.5	30	56,446
1981	Southeastern		674	10,532,007	26,684,956	496,751	2.5	21	97,398
	Pribilofs		87	1,313,951	2,945,536	62,875	2.5	21	4,196
	TOTAL	165	761	11,845,958	29,630,492	559,626	2.5	21	101,594
1982	Southeastern		539	3,825,433	8,812,302	322,634	2.3	12	69,829
	Pribilofs		252	1,005,547	2,196,477	167,465	2.2	6	68,330
	TOTAL	125	791	4,830,980	11,008,779	490,099	2.3	10	138,159
1983	Northern		10	29,478	48,454	5,950	1.7	5	167
	Southeastern		287	1,984,673	4,633,354	192,538	2.3	10	52,879
	Pribilofs		151	272,505	592,073	83,528	2.2	3	6,983
	TOTAL	108	448	2,286,756	5,273,881	282,006	2.3	8	60,029
1984	Southeastern		91	470,181	1,099,142	44,546	2.3	11	4,688
	Pribilofs		43	46,759	109,081	16,811	2.3	3	337
	TOTAL	41	134	516,877	1,208,223	61,357	2.3	8	5,025

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Table 6-19. (page 3 of 4)

Season	Subdistrict	Number of Vessels	Number of Landings	Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Deadloss[b]
1985	Southeastern	38	143	1,278,109	3,139,041	96,976	2.4	13	14,096
	Pribilofs	15	23	5,365	12,457	7,731	2.3	1	0
	TOTAL	44	166	1,283,474	3,151,3498	104,707	2.4	12	14,096
1986	SEASON CLOSED								
1987	SEASON CLOSED								
1988	Eastern	98	248	897,059	2,210,394	112,334	2.5	8	10,724
	Western	0	0	0	0	0	0	0	0
	TOTAL	98	248	897,059	2,210,394	112,334	2.5	8	10,724
1989	Eastern	109	359	2,907,021	7,012,965	184,892	2.4	16	34,664
	Western	0	0	0	0	0	0	0	0
	TOTAL	109	359	2,907,021	7,012,965	184,892	2.4	16	34,664
1990	Eastern		1,105	10,708,996	24,529,165	701,924	2.3	15	87,475
	Western		17	8,928	20,134	9,213	2.3	<1	0
	TOTAL	179	1,032	10,717,924	24,549,299	711,137	2.3	15	87,475

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Table 6-19 (page 4 of 4)

Season	Subdistrict	Number of Vessels	Number of Landings	Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Deadloss[b]
1990/91	Eastern	255	1,756	16,608,625	40,081,555	883,391	2.4	19	210,769
	Western	0	0	0	0	0	0	0	0
	TOTAL	255	1,756	16,608,625	40,081,555	883,391	2.4	19	210,769
1991/92	Eastern	285	2,339	12,924,034	31,796,381	1,244,633	2.5	10	279,741
1992/93	Eastern	293	2,011	15,074,084	34,821,043	1,150,834	2.3	13	340,955
	Western	70	96	191,796	309,823	50,051	1.6	4	3,000
	TOTAL	294	2,084	15,265,880	35,130,866	1,200,885	2.3	13	343,955
1993/94	East of 168°[d]	283	347	1,696,430	4,114,949	250,501	2.4	7	103,715
	163° to 173°[e]	261	515	5,539,068	12,776,371	325,963	2.3	17	154,674
	TOTAL	296	862	7,235,498	16,891,320	576,464	2.3	13	258,389
1994	163° to 173°	183	349	3,351,639	7,766,886	249,536	2.3	13	132,780
1995	163° to 173°	196	256	1,877,303	4,233,061	247,853	2.3	8	44,508

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]November 1 - November 10, 1993.
[e]November 20, 1993 - January 1, 1994.

Table 6-20. Historic Bering Sea *C. bairdi* Tanner crab seasons, 1968-1995.

Season	Date Opened	Date Closed	Number of Vessels	Harvest[a,b]	Average Weight[b]	CPUE[c]	Price/ Pound
1968[d]			NA	17.9	2.8	5	NA
1969[d]			NA	1,008.9	2.9	12	NA
1970[d]			NA	1,014.7	2.1	29	NA
1971[d]			NA	166.1	2.7	8	NA
1972[d]			NA	108.8	2.6	10	NA
1973[d]			NA	231.7	2.5	6	NA
1974[d]			NA	5,044.2	2.0	115	NA
1974/75	07-29	06-15	28	7,027.4	2.5	72	$ 0.20
1975/76	08-01	07-15	66	22,358.1	2.5	63	$ 0.19
1976/77	08-01	07-07	83	51,455.2	2.5	68	$ 0.30
1977/78	09-15	06-15	120	66,649.0	2.5	51	$ 0.38
1978/79	11-10	05-24	144	42,547.2	2.5	42	$ 0.52
1979/80	11-10	05-11	152	36,614.3	2.5	30	$ 0.52
1981	01-15	04-15	165	29,630.5	2.5	21	$ 0.58
1982	02-15	06-15	125	11,008.8	2.3	10	$ 1.06
1983[e]	02-15	05-22	108	5,273.9	2.3	8	$ 1.20
		06-15					
1984	02-15	06-15	41	1,208.2	2.3	8	$ 0.95
1985	01-15	06-15	44	3,151.5	2.4	12	$ 1.40
1986			SEASON CLOSED				
1987			SEASON CLOSED				
1988	01-15	04-20	98	2,210.4	2.5	8	$ 2.17
1989	01-15	05-07	109	7,013.0	2.4	16	$ 2.90
1990	01-15	04-09[f]					
		04-24[g]	179	24,549.3	2.3	15	$ 1.85
1990/91	11-20	03-25	255	40,081.6	2.4	19	$ 1.12
1991/92	11-15	03-31	285	31,796.4	2.5	10	$ 1.50
1992/93	11-15	03-31	294	35,130.9	2.3	13	$ 1.69
1993/94	11-01	11-10[h]	283	4,114.9	2.4	7	$ 1.90
	11-20	01-01[i]	261	12,776.4	2.3	17	$ 1.90
1994	11-01	11-21[i]	183	7,766.9	2.3	13	$ 3.75
1995	11-01	11-16[i]	196	4,233.1	2.3	8	$ 2.80

[a]Figures given in thousands - deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Incidental to the king crab fishery.
[e]Partial Bering Sea closure.
[f]East of 165° West longitude.
[g]West of 165° West longitude.
[h]East of 168° West longitude.
[i]163° -173° West longitude.

Table 6-21. Historic Bering Sea *C. bairdi* Tanner crab economic performance, 1979/80-1995.

Year	GHL[a,b]	Season Total[b]	Number of Vessels	Number of Landings	Number of Pots Registered	Number of Pots Pulled	Value Exvessel	Value Total[c]	Season Length (Days)	Season Length Dates
1979/80	28-36	36.5	152	804	40,273	488,434	$ 0.52	$ 19.0	(189)	11/01-05/14
1981	28-36	29.6	165	761	42,910	559,626	$ 0.58	$ 17.2	(88)	01/15-04/18
1982	12-16	10.9	125	791	36,396	490,099	$ 1.06	$ 11.5	(118)	02/15-06/15
1983	5.6	5.2	108	448	15,255	282,006	$ 1.20	$ 6.2	(118)	02/15-06/15
1984	7.1	1.2	41	134	9,851	61,357	$ 0.95	$ 1.1	(118)	02/15-06/15
1985	3.0	3.1	44	166	15,325	104,707	$ 1.40	$ 4.3	(149)	01/15-06/15
1986				NO COMMERCIAL FISHERY						
1987				NO COMMERCIAL FISHERY						
1988	5.6	2.2	98	248	38,765	112,334	$ 2.17	$ 4.8	(93)	01/15-04/20
1989	13.5	7.0	109	359	43,607	184,892	$ 2.90	$ 20.3	(110)	01/15-05/07
1990[d]	29.5	24.5	179	1,032	46,440	711,137	$ 1.85	$ 45.3	(89)	01/15-04/24
1990/91	42.8	39.7	255	1,756	75,356	883,391[d]	$ 1.12	$ 44.5	(126)	11/20-03/25
1991/92	32.8	31.5	285	2,339	85,401	1,244,633	$ 1.50	$ 47.3	(137)	11/15-03/31
1992/93	39.2	35.1	294	2,084	71,481	1,200,885	$ 1.69	$ 58.8	(137)	11/15-03/31
1993[e]	10.7	4.1	283	347	62,302	250,501	$ 1.90	$ 7.6	(10)	11/01-11/10
1993/94[f]	9.1	12.8	261	515	53,737	325,963	$ 1.90	$ 24.0	(42)	11/20-01/01
1994[f]	7.5	7.6	183	349	38,670	249,536	$ 3.75	$ 28.5	(20)	11/01-11/21
1995	5.5	4.2	196	256	40,827	247,853	$ 2.80	$ 11.7	(15)	11/01-11/16

[a]Guideline Harvest Level
[b]Millions of pounds, deadloss not included.
[c]Millions of dollars.
[d]Winter fishery.
[e]East of 168° West longitude.

Table 6-22. Bering Sea *C. bairdi* Tanner crab catch by statistical area, 1995.

Area	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead-loss[b]
635504	17	76,795	133,014	4,345	1.7	18	905
635530	39	164,798	384,092	20,487	2.3	8	3,554
635600	63	311661	722,888	38,017	2.3	8	7,493
635700	5	25,333	56,839	3,007	2.2	8	712
645530	40	165,520	383,239	24,799	2.3	7	4,833
645600	35	158,488	361,674	21,026	2.3	8	5,156
645630	22	102,868	235,070	12,959	2.3	8	2,964
655500	11	33,819	78,262	5,904	2.3	6	1,451
655530	6	11,571	26,738	1,484	2.3	8	242
655600	20	50,800	117,170	7,357	2.3	7	990
655630	4	9,016	19,675	1,656	2.2	5	102
665600	7	19,253	43,267	3664	2.3	5	473
665630	3	13,608	28,464	2,350	2.0	6	61
675600	10	73,179	162,732	9,021	2.2	8	1,963
695600	4	1,037	2,293	630	2.2	2	37
695631	6	9,358	21,152	2,640	2.3	4	237
705600	7	11,896	25,927	2,502	2.2	5	270
705630	31	92,637	206,350	17,620	2.2	5	2,062
705701	4	7,007	15,310	926	2.2	8	42
Other[d]	13	59,630	132,014	7,801	2.2	8	635
TOTAL	256	1,877,303	4,233,061	247,853	2.3	8	44,508

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Includes 9 statistical areas.

Table6-23. Historic Bering Sea *C. opilio* catch statistics by season, 1977/78-1995.

Year	Number of Vessels	Number of Landings	Crab[a]	Pots Harvest[a,b]	Pots Pulled	CPUE[c]	% New Shell	Average Weight[e]	Average Width[d]	Dead-loss[b]
1977/78	15	38	1,267,546	1,716,124	13,247	96	NA	1.4	NA	0
1978/79	102	490	22,118,498	32,187,039	190,746	116	83.0	1.5	113.1	759,137
1979/80	134	597	25,286,777	39,572,668	255,102	99	90.0	1.6	118.1	228,345
1981	153	867	34,415,322	52,750,034	435,742	79	79.2	1.5	117.0	2,269,979
1982	122	803	24,089,562	29,355,374	469,091	51	78.0	1.2	109.4	1,092,655
1983	109	461	23,853,647	26,128,410	287,127	83	NA	1.1	NA	1,324,466
1984[e]	52	367	24,009,935	26,813,074	173,591	138	78.0	1.1	105.4	798,795
1985[f]	75	718	52,903,246	65,998,875	372,045	142	80.0	1.3	108.0	1,064,184
1986[g]	88	992	76,499,123	97,984,539	543,744	141	73.7	1.3	109.5	1,378,533
1987	103	1,038	81,307,659	101,903,388	616,113	132	84.0	1.2	108.9	978,449
1988	171	1,285	105,716,337	134,030,185	776,907	136	71.2[h]	1.3	109.5	3,260,020
1989	168	1,341	112,618,881	149,455,848	663,442	170	85.2[h]	1.3	111.2	1,844,682
1990	189	1,565	128,977,638	161,821,350	911,613	141	97.4[h]	1.3	109.1	1,796,664
1991	220	2,788	265,123,960	328,647,269	1,391,583	191	95.1	1.2	110.2	3,464,036
1992	250	2,763	227,376,582	315,302,034	1,281,796	177	97.6	1.4	111.7	2,325,852
1993	254	1,836	169,558,842	230,787,000	971,046	175	92.5	1.4	111.6	1,573,952
1994	273	1,293	114,779,014	149,775,765	716,524	160	92.5	1.3	111.6	1,799,323
1995	253	869	60,611,411	75,252,677	506,802	117	NA	1.2	NA	1,287,169

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Carapace width (millimeters).
[e]North of 58° reopened until 12/31.
[f]West of 164° opened through 12/31.
[g]Open only west of 164° West longitude.
[h]Eastern and Western Districts combined.

Table 6-24. Historic Bering Sea *C. opilio* Tanner crab seasons, 1977/78-1995.

Season	Date Opened	Date Closed	Number of Vessels	Harvest[a,b]	Average Weight[b]	CPUE[c]	Price/ Pound
1977/78	09-15-77	09-23-78	15	1,716,124	1.4	96	$ 0.38
1978/79	11-01-78	09-03-79	102	32,187,039	1.5	116	$ 0.30
1979/80	11-01-79	08-15-80 09-03-80[d]	134	39,572,668	1.6	99	$ 0.21
1981	01-15-81	08-01-81 09-01-81[d]	153	52,750,034	1.5	79	$ 0.26
1982	02-15-82	08-01-82	122	29,355,374	1.2	51	$ 0.73
1983	02-15-83	05-22-83 06-15-83[e]	109	26,128,410	1.1	83	$ 0.35
1984	02-15-84	08-01-84	52	23,940,984	1.1	147	$ 0.30
	08-01-84	12-31-84[f]		2,872,090	1.1	125	
1985	01-15-85	09-22-85	75	57,446,554	1.3	142	$ 0.30
	10-09-85	12-31-85[g]		8,552,321			
1986	01-15-86	09-24-86[h]	88	97,984,539	1.3	141	$ 0.60
1987	01-15-87	06-22-87	103	101,903,388	1.2	132	$ 0.75
1988	01-15-88	03-29-88	162	75,781,258	1.3	139	$ 0.75
	05-15-88	06-30-88	151 171	58,278,927 134,060,185	1.3 1.3	137 136	$ 0.80 $ 0.77
1989	01-15-89	03-26-89 05-07-89	168	149,455,848	1.3	170	$ 0.75
1990	01-15-90	04-24-90[h] 06-12-90	177 152 189	94,831,897 66,989,453 161,821,350	1.2 1.3 1.3	148 130 141	$ 0.64
1991	01-15-91	05-05-91 06-23-91	218 186 220	240,090,666 88,556,603 328,647,269	1.3 1.2 1.2	206 153 191	$ 0.50
1992	01-15-92	04-22-92	250	315,302,034	1.4	177	$ 0.50
1993	01-15-93	03-15-93	254	230,787,000	1.4	175	$ 0.75
1994	01-15-94	03-01-94	273	149,775,765	1.3	160	$ 1.30
1995	01-15-95	02-17-95	253	75,252,677	1.3	117	$ 2.43

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.
[d]Varied according to size.
[e]Partial Bering Sea closure.
[f]North of 58° only.
[g]West of 164° opened through 12-31-85.
[h]Open only west of 164° West longitude.

Table 6-25. Historic Bering Sea *C. opilio* Tanner crab economic performance, 1979/80-1995.

Season		Season	Number of		Number of Pots		Value		
Year	GHL[a]	Total[a]	Vessels	Landings	Registered[b]	Pulled	Exvessel	Total[c]	Length[d]
1979/80	N/A	39.3	134	597	35,503	255,022	$ 0.21	$ 83.0	307
1981	[e]	50.5	153	867	39,789	435,742	$ 0.26	$ 13.1	229
1982	[f]	28.3	112	803	35,522	469,091	$ 0.73	$ 20.7	167
1983	15.8	24.8	109	462	15,39	287,127	$ 0.35	$ 8.7	120
1984[g]	49.0	26.0	52	367	12,493	173,591	$ 0.30	$ 7.8	320
1985[g]	98.0	64.9	75	718	15,325	372,045	$ 0.30	$ 19.5	333
1986[g]	57.0	96.6	88	992	13,750	543,744	$ 0.60	$ 60.0	252
1987	56.4	100.9	103	1,038	19,386	616,113	$ 0.75	$ 75.7	158
1988	110.7	130.8	171	1,285	38,765	776,907	$ 0.77	$100.7	120
1989	132.0	147.6	168	1,341	43,607	663,442	$ 0.75	$110.7	112
1990	139.8	160.0	189	1,565	46,440	911,613	$ 0.64	$102.3	148
1991	315.0	325.2	220	2,788	76,056	1,391,583	$ 0.50	$162.6	159
1992	333.0	313.0	250	2,763	77,858[h]	1,281,796	$ 0.50	$156.5	97
1993	207.2	229.2	254	1,836	65,081[h]	971,046	$ 0.75	$171.9	59
1994	105.8	148.0	273	1,293	54,837[h]	716,524	$ 1.30	$192.4	45
1995	55.7	74.0	253	869	53,707[h]	506,802	$ 2.43	$180.0	33

[a]Millions of pounds, deadloss not included.
[b]Same gear as *C. bairdi* fishery.
[c]Millions of dollars.
[d]In days.
[e]Published range 39.5-91.0.
[f]Published range 16.0-22.0
[g]Partial closures only.
[h]Gear of *C. opilio* vessels only.

Table 6-26. Historic Bering Sea *C. opilio* catch by season and subdistrict, 1977/78-1995.

Season	Subdistrict	Number of Vessels	Number of Landings	Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Deadloss[b]
1977/78	Southeastern		33	1,063,872	1,439,959	11,560	1.4	0	0
	Pribilof		5	203,674	276,165	1,687	1.4	121	
	TOTAL	15	38	1,267,546	1,716,124	13,247	1.4	96	0
1978/79	Southeastern	101	476	21,279,794	31,102,832	184,491	1.5	115	659,137
	Pribilof	10	14	838,704	1,084,039	6,225	1.5	135	100,000
	TOTAL	102	490	22,118,498	32,187,039	190,746	1.5	116	759,137
1979/80	Southeastern	133	561	23,199,446	36,406,391	237,375	1.6	98	187,945
	Pribilof	19	36	2,087,331	3,166,777	17,727	1.5	118	40,400
	TOTAL	134	597	25,286,777	39,572,668	255,102	1.6	99	228,345
1981	Southeastern		624	24,498,642	37,866,229	309,304	1.6	79	1,475,078
	Pribilof		243	9,916,617	14,886,705	126,438	1.5	78	794,901
	TOTAL	153	867	34,415,322	52,750,034	435,742	1.5	79	2,269,979
1982	Southeastern		468	10,207,174	13,079,583	257,193	1.3	40	422,979
	Pribilof		335	13,882,388	16,276,421	211,898	1.2	66	669,676
	TOTAL	122	803	24,089,562	29,355,374	469,091	1.2	51	1,092,655

-Continued-

Table 6-26. (page 2 of 4)

Season	Subdistrict	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Deadloss[b]
1983	Southeastern		153	3,553,281	4,197,304	94,470	1.2	38	165,298
	Pribilof		239	19,076,553	20,514,000	153,458	1.0	124	1,078,643
	Northern		69	1,223,813	1,417,106	39,199	1.1	31	80,525
	TOTAL	109	461	23,853,647	26,128,410	287,127	1.1	83	1,324,466
1984	Southeastern		76	3,534,370	3,990,621	33,091	1.1	107	54,678
	Pribilof		230	17,909,096	19,727,493	112,078	1.1	160	708,706
	Northern		61	2,566,469	3,094,960	28,422	1.2	90	35,411
	TOTAL	52	367	24,009,935	26,813,074	173,591	1.1	138	798,795
1985	Southeastern	55	301	21,963,882	27,373,232	158,819	1.4	138	461,001
	Pribilof	60	301	24,089,526	29,804,093	142,937	1.2	168	505,146
	Northern	24	116	6,849,838	8,821,550	70,289	1.3	97	98,037
	TOTAL	75	718	52,903,246	65,998,875	372,045	1.3	142	1,064,184
1986	Southeastern	47	112	8,491,694	10,957,578	63,889	1.3	133	44,755
	Pribilof	80	508	39,851,767	50,525,150	281,337	1.3	142	472,342
	Northern	67	372	28,155,662	36,501,811	198,518	1.3	142	861,436
	TOTAL	88	992	76,499,123	97,984,539	543,744	1.3	141	1,378,533
1987	Southeastern	28	64	4,116,778	5,106,473	24,619	1.2	167	24,619
	Pribilof	94	458	38,604,802	47,676,734	261,337	1.2	148	261,337
	Northern	99	516	38,586,079	49,120,181	330,157	1.2	117	330,157
	TOTAL	103	1,038	81,307,659	101,903,388	616,113	1.2	132	978,449

-Continued-

Table 6-26. (page 3 of 4)

Season	Subdistrict	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Deadloss[b]
1988	Eastern	162	770	59,811,702	75,781,258	431,310	1.3	139	775,104
	Western	151	515	45,904,635	58,278,927	335,597	1.3	137	2,484,916
	TOTAL	171	1,285	105,716,337	134,060,185	776,907	1.3	136	3,260,020
1989	Eastern	163	871	77,698,698	104,399,693	391,451	1.3	198	1,128,971
	Western	127	470	34,920,183	45,056,155	271,991	1.3	128	715,711
	TOTAL	168	1,341	112,618,881	149,455,848	663,442	1.3	170	1,844,682
1990	Eastern	177	956	76,331,829	94,831,897	512,259	1.2	149	1,010,755
	Western	152	659	52,645,809	66,989,453	399,354	1.3	132	785,909
	TOTAL	189	1,565	128,977,638	161,821,350	911,613	1.3	141	1,796,664
1991	Eastern	218	2,013	190,139,612	240,090,666	912,751	1.3	208	1,593,021
	Western	186	867	74,984,348	88,556,603	478,832	1.2	157	1,871,015
	TOTAL	220	2,788	265,123,960	328,647,269	1,391,583	1.2	191	3,464,036
1992	Eastern	250	N/A	217,375,564	302,363,005	1,228,280	1.4	177	2,268,467
	Western	55	N/A	10,001,018	12,939,029	53,516	1.3	187	57,385
	TOTAL	250	2,763	227,376,582	315,302,034	1,281,796	1.4	177	2,325,852

-Continued-

Table 6-26. (page 4 of 4)

Season	Subdistrict	Number of Vessels	Number of Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Deadloss[b]
1993	Eastern	251	1,384	110,760,099	151,328,721	675,996	1.4	164	1,108,520
	Western	185	633	58,798,743	79,458,279	295,050	1.4	197	465,432
	TOTAL	254	1,836	169,558,842	230,787,000	971,046	1.4	175	1,573,952
1994	Eastern	220	820	56,012,017	72,008,424	375,928	1.3	149	901,674
	Western	171	586	58,766,997	77,767,341	340,596	1.3	173	897,649
	TOTAL	273	1,293	114,779,014	149,775,765	716,524	1.3	160	1,799,323
1995	Eastern	217	627	32,630,348	39,736,986	313,910	1.2	102	657,051
	Western	153	357	27,981,063	35,515,691	192,892	1.3	142	630,118
	TOTAL	253	869	60,611,411	75,252,677	506,802	1.2	117	1,287,169

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per pot pull.

Table 6-27. Bering Sea *C. opilio* catch by statistical area, 1995.

Area	Landings	Number of Crab[a]	Harvest[a,b]	Pots Pulled	Average Weight[b]	CPUE[c]	Dead - loss[b]
665500	4	106,524	158,380	1,195	1.5	89	3,450
665530	3	78,933	103,914	495	1.3	162	250
675530	24	986,281	1,184,003	15,011	1.2	66	17,361
675600	27	991,895	1,241,753	12,148	1.3	82	38,365
675630	10	301,348	338,956	2,873	1.1	105	11,617
685530	6	193,206	235,225	2,042	1.2	95	11,526
685600	39	1,609,246	1,972,990	15,631	1.2	103	14,645
685630	23	835,360	1,028,883	9,819	1.2	85	14,014
695600	7	268,530	338,790	1,987	1.3	135	1,461
705600	17	493,088	610,887	4,940	1.2	100	9,470
705630	11	169,621	212,000	2,307	1.3	74	1,950
705701	5	15,045	20,346	341	1.4	44	50
715600	20	427,813	525,221	5,298	1.2	81	7,300
715630	168	6,350,716	7,755,436	65,750	1.2	97	139,046
715700	111	4,078,175	5,022,810	39,319	1.2	104	70,516
715730	17	530,598	616,550	5,055	1.2	105	6,578
725600	3	113,788	140,648	1,030	1.2	111	62,727
725630	105	4,465,269	5,527,438	42,601	1.2	105	
725700	131	5,579,504	6,602,329	49,514	1.2	113	112,532
725730	76	3,816,550	4,573,954	26,069	1.2	146	130,496
725800	19	720,419	929,891	5,566	1.3	129	7,578
735630	14	326,937	408,305	2,707	1.3	121	5,534
735700	56	1,975,204	2,458,383	18,123	1.3	109	34,909
735730	127	7,019,426	8,828,540	50,330	1.3	140	167,900
735800	94	50,001,270	6,523,529	35,778	1.3	140	88,929
735830	30	839,930	1,311,069	5,942	1.6	141	18,731
745800	57	2,770,774	3,724,682	19,287	1.3	144	72,208
745830	79	5,760,383	6,544,541	30,406	1.1	189	121,733
755800	3	53,408	77,392	531	1.5	101	537
755830	53	3,203,677	4,249,947	22,032	1.3	145	56,610
765830	10	280,384	378,304	2,588	1.4	108	4,364
765900	3	121,076	167,233	497	1.4	244	40,850
775930	3	75,912	113,004	825	1.5	92	29
Other	29	1,050,121	1,327,344	14,765	1.3	71	22,747
Total	869	60,611,411	75,252,677	506,802	1.3	117	1,287,169

[a]Deadloss included.

[b]In pounds.

[c]Defined as catch per pot pull.

Table 6-28. Historic Bering Sea *C. tanneri* Tanner crab catch, 1993-1995.

Year	Number of Vessels	Number of Landings	Crab[a]	Harvest[a,b]	Pots Lifted	Average Weight[b]	CPUE[c]	Dead-loss[b]
1993	6	18	342,095	658,796	35,650	1.9	9	71,000
1994	4	12	165,365	332,454	13,739	2.0	11	30,585
1995	8	47	456,857	966,846	55,901	2.1	8	66,829

[a]Deadloss included.
[b]In pounds.
[c]Defined as catch per unit effort.

Table 6-29. Bering Sea *C. tanneri* Tanner crab economic performance, 1993-1995.

Year	Season Total[a]	Number of Vessels	Number of Landings	Number of Pots Registered	Number of Pots Pulled	Value Exvessel	Value Total[b]	Season Length Days	Season Length Dates
1993	587,796	6	18	2700	35,650	$0.94	$0.6	365	01/1-12/31
1994	301,869	4	12	732	13,739	$1.20	$0.4	365	01/1-12/31
1995	900,017	8	47	NA	55,901	$1.40	$1.3	365	01/1-12/31

[a]Deadloss not included.
[b]Millions of dollars.

Table 6-30. Pot limits for the Bering Sea fisheries in 1995/96.

Fishery	Pot Limits	
	vessels <=125 Feet	vessels >125 Feet
St. Matthew king crab	60	75
Norton Sound king crab	40	50
St. Lawrence king crab	40	50
Pribilof Red king crab	40	50
Bristol Bay king crab	200	250
Bering Sea Tanner crab	200	250

Table 6-31. Number of buoy tags printed and issued by tag type, 1995/96.

Fishery and Tag Code	Number of Tags Printed <=125[a]	Number of Tags Printed >125[a]	Color	Number of Tag Sets Issued <=125[a]	Number of Tag Sets Issued >125[a]	Number of Tags Issued <=125[a]	Number of Tags Issued >125[a]
Pribilof King Crab Series A	None[b]	6,000	Garnet	115	15	4,650	750
St. Matthew King Crab Series B	6,000	3,750	Orange	52	38	3,120	2,850
Bering Sea Bairdi Tanner Crab Series C	40,000	25,000	Brown	134	62	25,575	15,202
Bering Sea Opilio Tanner Crab Series D	40,000	25,000	Pink	153	85	29,190	20,754
Totals	86,000	59,750		454	200	62,535	39,556
Totals for Vessels of Both size categories	145,750			654		102,091	

[a]Vessel length in feet

[b]For vessels less than 125 feet, 40 tags were sold out of sets of 50 and the 10 remaining tags were voided

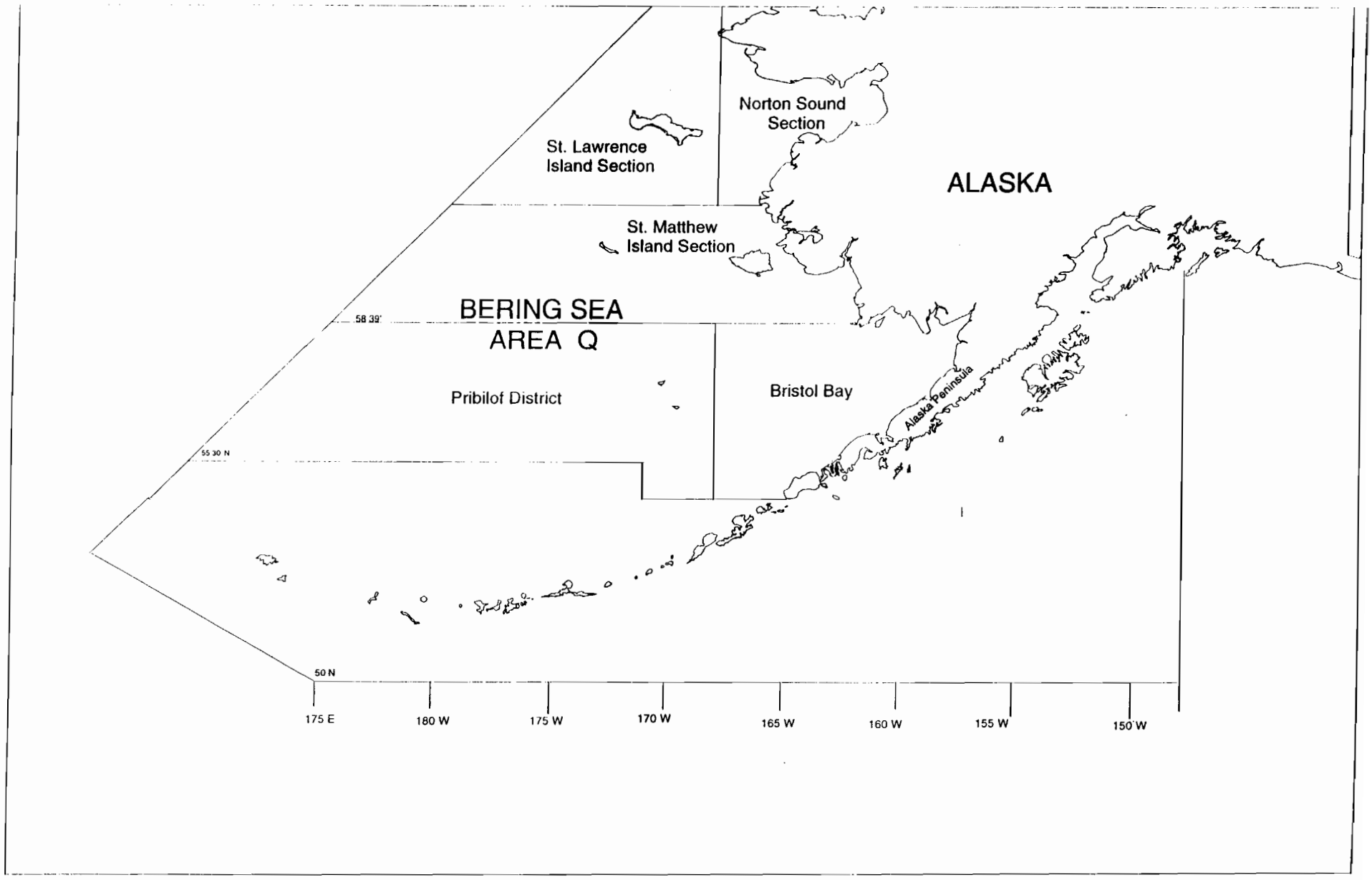

Figure 6-1. Bering Sea, Area Q, king crab registration area, with districts and sections.

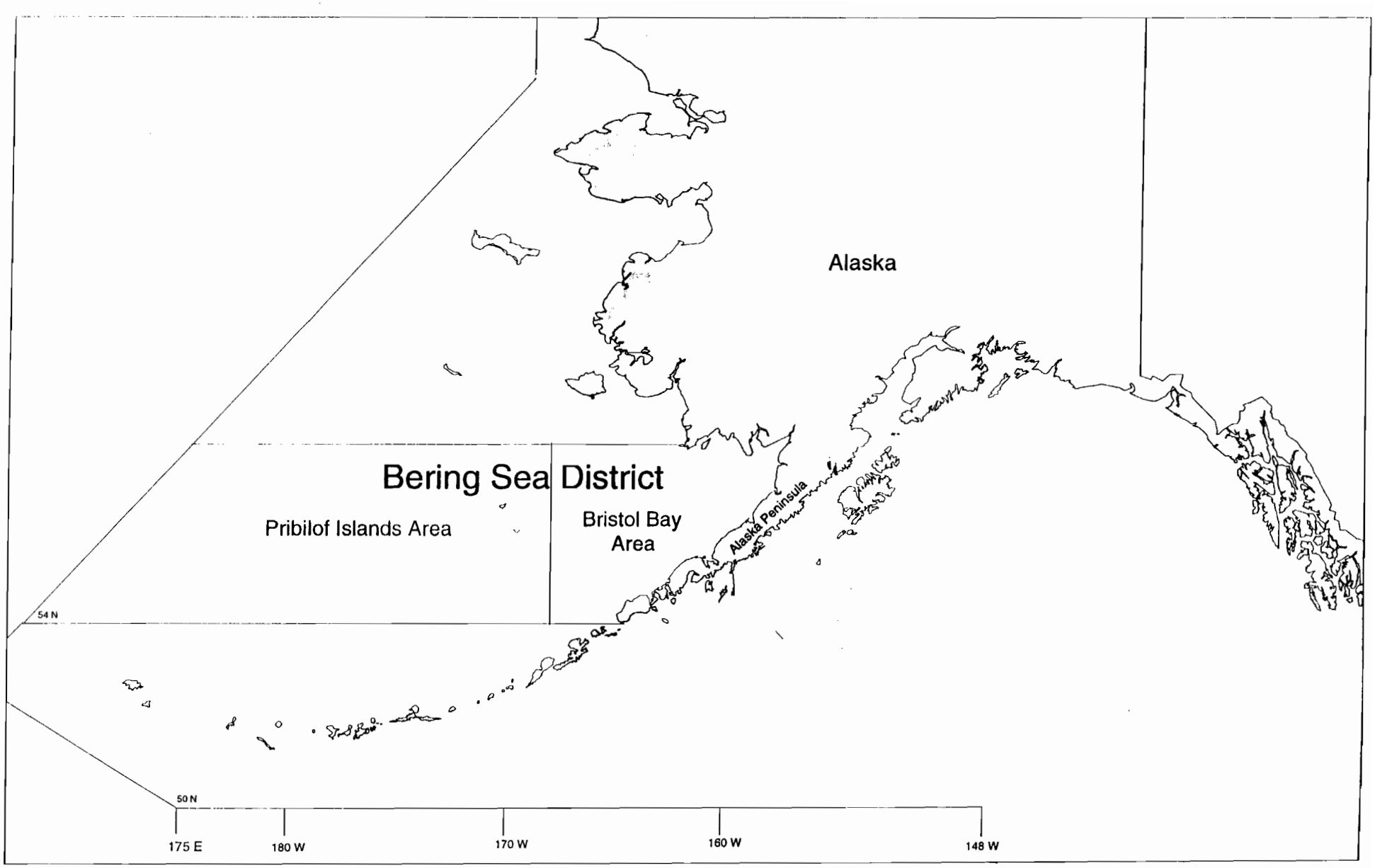

Figure 6-2. Bering Sea Korean hair crab district and areas.

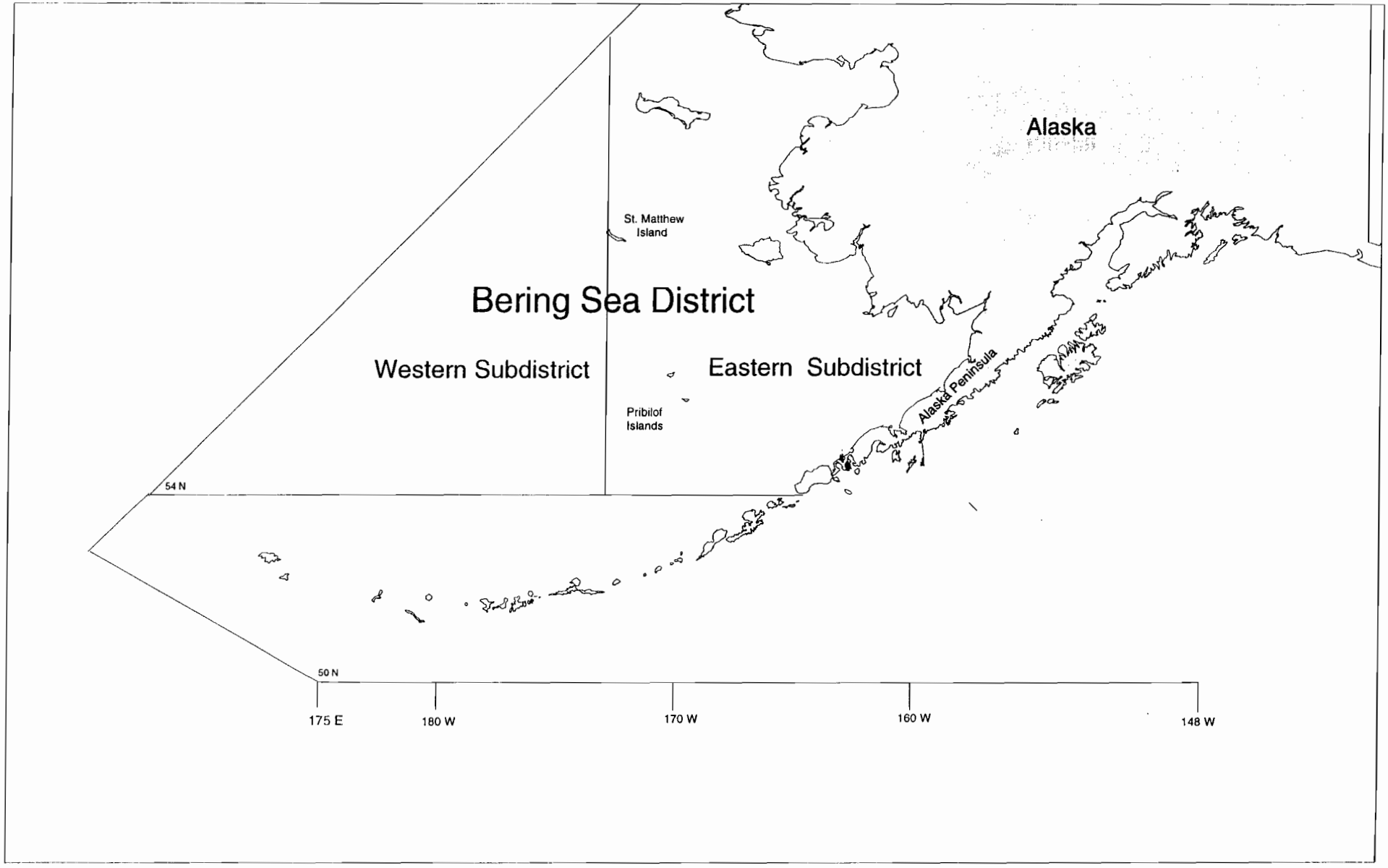

Figure 6-3. Bering Sea Tanner crab subdistricts.

Figure 6-4. Scale drawing of tag used during the 1995/96 Bering Sea fisheries with imposed pot limits.

STATE OF ALASKA

MANDATORY SHELLFISH OBSERVER PROGRAM

By

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March 1997

INTRODUCTION

In April 1988 the Alaska Board of Fisheries (BOF) adopted regulations requiring onboard observers on all vessels which processed king crab and *Chionoecetes bairdi* Tanner crab within Alaskan waters. The observer requirement was prompted by Alaska Department of Fish and Game (ADF&G) reports which suggested that illegal processing of undersized and female crabs by at-sea processors was occurring. The reports showed consistently higher production rates by catcher-processors compared to catcher-only vessels. These regulations resulted in creation of the Mandatory Shellfish Observer Program (SOP), which first deployed observers in the September 1988 Bristol Bay red king crab fishery. Primary goals of the program were to determine the legality of retained crab, collect catch composition data from sampled crab pots, and to collect shell size, age, and condition information from delivered product.

Although SOP regulations apply statewide, activities have focused on the Bering Sea and Aleutian Islands crab fisheries, where all at-sea processing of crab occurs. The policy of ADF&G was for all observer activity for a fishery be handled by the management office responsible for that fishery, consequently most observer activity has been handled by the SOP staff in Dutch Harbor.

In the spring of 1990 the BOF adopted regulations which broadened mandatory observer coverage to include vessels processing *Chionoecetes opilio*. This change was made due to reports of undersized *C. bairdi* being processed as *C. opilio*. The BOF also defined observer qualification standards, observer and contractor conflict of interest guidelines, and observer duties and responsibilities. In the fall of 1991 the BOF adopted new regulations concerning observer certification and decertification.

During the spring 1993 BOF meeting, the scallop fishery was designated a high-impact emerging fishery which the BOF developed a fishery management plan for. One adopted regulation mandated ADF&G institute an observer program for the scallop fishery. The primary goals of the Scallop Observer Program are assessing scallop population dynamics and documenting the impact on other fisheries and the environment through analysis of data from scallop dredge samples. The scallop observer program was implemented on June 27, 1993.

SHELLFISH OBSERVER PROGRAM GUIDELINES

Shellfish Observer Program guidelines were originally defined by the BOF in 1988 and remain in regulation. The guidelines define the responsibilities of each interest group (ADF&G, contractors, observers, & vessels) involved in the SOP.

ADF&G: The Alaska Department of Fish and Game is responsible for establishing observer qualifications, conflict of interest standards, and sampling procedures. ADF&G is also charged with review and approval of observer training programs, observer testing, certification, decertification, briefing, debriefing, analysis of observer data and program progress reports.

Contractors: Contractors are required to hire, train, and deploy observers. Contractors also provide all observer logistical support including food, accommodations, sampling equipment, and transportation. Contractors secure contracts directly with vessel owners/operators.

Observers: Observer qualifications include a minimum of a Bachelor of Science degree in the Natural Sciences, a valid National Marine Fisheries Service observer certification, or previous employment history demonstrating the ability, once trained, to effectively perform the duties of a shellfish observer.

Observer candidates are required to undergo ADF&G approved training and pass a written and practical certification exam administered by SOP staff in Dutch Harbor. Observers may not have a financial interest in the fishery or vessel to which they are assigned. They are limited to no more than 90 days of duty on a specific vessel during any 12 month period. Observers who are inactive for 12 consecutive months loose their certification. To regain certification they must be retrained and tested.

Vessels: Regulations require the cost of observers to be borne by the shellfish industry.

Vessel owners/operators are required to procure and pay for observers through a qualified contractor and provide food and accommodations for the observer equal to that of the vessel's crew.

The vessel must also provide the observer a safe work area, necessary gear, and the opportunity to adequately sample the catch according to ADF&G requirements. Daily fishing information and access to communication equipment must also be provided by the vessel.

OBSERVER DUTIES

Observers assigned to catcher-processors (C/P) are required to conduct numerous sampling duties. To monitor legal compliance observers collect random legal tally samples of 600 crabs collected throughout the day, record fishing locations from the vessel's navigation equipment, and monitor fishing activities. Observers also have daily biological sampling duties which include measuring 100 crabs for size and shell age and weighing an assigned number of crabs to determine average weight. Observers also obtain daily catch records and report production to ADF&G. Additionally, observers sample a specified number of pots to identify pot contents and document the incidence of non-target animals.

Observers assigned to floating-processors (F/P) are required to conduct the following duties on each vessel delivering to their assigned processor. From the catch, observers conduct random legal tally sampling of 600 crabs and measure 100 crabs for size and shell age. Observers also conduct skipper interviews and determine average crab weight by counting the number of crabs in three brailers of known weight.

Observers assigned to catcher-only vessels (F/V) are required to conduct the following sampling duties: For biological duties, observers are required to daily sample a specified number of pots to identify pot contents and document the incidence of non-target animals. At each delivery, observers are required to measure 100 crabs for size and shell age and determine the average crab weight by counting the number of crabs in three brailers of known weight. Observers also obtain daily catch records and report fishing efforts and sampling rates to ADF&G. To monitor legal compliance they collect random legal tally samples of 600 crabs collected at the point of delivery, record fishing locations from the vessel's navigation equipment, and monitor fishing activities.

In addition to their normal duties, observers are often assigned special projects ranging from specimen collection to genetic sampling.

If a legal problem is encountered, observers are instructed in the proper evidence collection and handling methods. They will be interviewed by a Fish and Wildlife Protection Trooper and may make a written statement. Observers are also expected to testify in court when necessary.

FISHERIES REVIEW

Fishing year: Tracking of observer and vessel activity for all shellfish fisheries was changed with this report to a calendar year format, switching from a fishing year format of September through August used in previous reports.

Observer deployment is determined by the number of observer days on board a vessel and then converted to observer months. One observer month is equivalent to 30 observer days.

Vessel Effort and Observer Coverage: Observer activity increased gradually during the first three years of the program (Table 7-1 and Figure 7-1) then experienced a dramatic increase in activity in 1991. This is the result of the BOF decision requiring observer coverage of the Bering Sea *C. opilio* fishery. An increase in the number of at-sea processing vessels also contributed to the increased demand for observers. During the 1992 season the expanding trend reversed as quotas in Bering Sea Tanner crab fisheries declined and seasons shortened. Furthermore, fewer catcher-processors participated in the Adak and Dutch Harbor king crab fisheries. This decrease in observer activity was partially offset in 1993 by the requirement that all vessels fishing Bering Sea hair crab must carry an observer as a condition of their fishing permit. A similar observer requirement was instituted in 1994 for vessels fishing *C. tanneri*. The number of at-sea processors participating continued to decline in 1995 to 36 after peaking at 50 and 51 during the 1991 and 1992 fishery years respectively. Many catcher-processors now avoid some U.S. fisheries, targeting instead on Russian fisheries. Also, some catcher-processors and one floating-processor have been sold to the Russians. This decrease in activity has been partially offset by commencement of the Scallop Observer Program

During the 1995 season observers made 211 trips and logged 213 months at sea. This reverses a trend of declining activity started in 1992 and is attributable to the 1995 BOF decision requiring observers on all vessels fishing for king crab in the Adak and Dutch Harbor fisheries.

A summary of vessel and observer activity, by fishery, for the 1988 through 1995 seasons is presented in Tables 7-2 through 7-11.

The following reports of individual fisheries are generally divided by fishing seasons.

1995 Bering Sea *C. opilio* Tanner Crab: This fishery opened on January 15 with a quota of 50.7 million pounds. It closed on February 17. Observers made 50 trips on 19 catcher-processors and 15 floating-processors, spending 51.4 months at sea.

1995 Dutch Harbor Brown King Crab: This was the first year of mandatory observer coverage on all vessels participating in this fishery. The fishery opened on September 1 with a harvest goal of 1.5 million pounds and closed on October 9. Nineteen observer deployments occurred, totaling 20 observer months on one-catcher processor and 16 catcher-only vessels during the season.

1995 Pribilof Blue & Red King Crab: A quota of 2.5 million pounds was established, and the fishery lasted eight days, closing September 22. An observer was deployed on one catcher-processor, spending a total of 0.4 months at sea.

1995 Saint Matthew Blue King Crab: A quota of 2.4 million pounds was established and the fishery ran for eight days, closing on September 22. Observers were deployed on one-catcher processor, one volunteer catcher-only vessel, and 4 floating-processors, spending a total of 3.1 months at sea.

1995 Bering Sea Hair Crab: This fishery opened on November 1 with a quota of 1.8 million pounds. The fishery closed on November 26 with a harvest of 2.1 million pounds. Twenty-two observer deployments occurred on 21 catcher-only vessels, logging 21.5 months at sea.

Adak King Crab: Both red and brown king crab are fished in the Adak fishery, which opens on November 1. The red king crab season closes by regulation on February 15, and the brown king crab season closes on August 15. However, either fishery may be closed earlier by emergency order. This was the first year of mandatory observer coverage on all vessels participating in this fishery.

1995 Fishery: Twenty-nine observer deployments occurred lasting 35.4 months. These deployments were dispersed throughout the fleet of two catcher-processors, fourteen catcher-only vessels, and two floating-processors during the season.

1995 Bristol Bay Red King Crab: This fishery did not open due to the low abundance of mature females. Their abundance was estimated at 8.0 million crabs; below the threshold of 8.4 million mature females required to permit a fishery.

1995 Bering Sea *C. bairdi* Tanner Crab: The eastern subdistrict of the Bering Sea west of 163° west longitude opened to *C. bairdi* fishing on November 1. Eleven catcher-processors and one floating-processor entered the fishery carrying observers. A quota of 5.5 million pounds was set and the fishery remained open until November 16. Observers spent a total of 8.1 months at sea.

***C. tanneri* Tanner Crab:** The *C. tanneri* fishery is developing interest from an increasing number of vessels. Commercial quantities exist from southeast Alaska to the Bering Sea. These are deep water crabs fished at depths of 300 to 500 fathoms. The preferred method of fishing is to longline pots; however, longlining is permitted only in the Adak, Bering Sea, and Dutch Harbor areas. This limits interest in the other registration areas. These are permit fisheries open year-round and if necessary closed by emergency order. A condition of the permit is mandatory observer coverage of all vessels.

1995 Adak *C. tanneri* Tanner Crab: Observers made four trips deployed on three catcher-only vessels participating in this fishery. They logged 4.9 months at sea.

1995 Alaska Peninsula *C. tanneri* Tanner Crab: Observers made 16 trips deployed on one catcher-processor and eight catcher-only vessels participating in this fishery. They logged 11.3 months at sea.

1995 Bering Sea *C. tanneri* Tanner Crab: Observers made 16 trips deployed on eight catcher-vessels participating in this fishery. They logged 19.5 months at sea.

1995 Dutch Harbor *C. tanneri* Tanner Crab: Observers made 15 trips deployed on seven catcher vessels and one floating processor participating in this fishery. They logged 23.2 months at sea.

Weathervane Scallop Fisheries: The 1995 Alaska weathervane scallop fisheries opened in State waters only. Federal waters remained closed due to lack of a management plan and the consequent unmanageable fishery that would result from an opening.

1995 Adak Scallops: One observer was deployed on one scallop vessel during this fishery, spending 0.3 months at sea.

1995 Dutch Harbor Scallops: Three observers were deployed on one scallop vessel during this fishery, spending 2.0 months at sea.

1995 Prince William Sound Scallops: Two observers were deployed on two vessels during this fishery, spending 0.9 months at sea.

1995 Yakutat Scallops: Eight observers were deployed for nine trips on eight vessels during this fishery, spending 7.8 months at sea.

SHELLFISH OBSERVER PROGRAM ACTIVITY

Observer Briefing and Debriefing Activity: During the 1995 fishing year SOP staff in Dutch Harbor conducted 478 shellfish observer briefings or debriefings (includes mid-trip debriefings).

During the first four years of the SOP, briefing and debriefing activity was high during the fall, winter, and spring months corresponding to commercial crab fishing seasons in the Bering Sea and Aleutian Islands areas. In the past two years, observer activity has increased substantially during the summer months due to the developing scallop fisheries. The number of briefings and debriefings by month for the 1995 fishing year is presented in Figure 7-2. A monthly summary of observer briefing and debriefing sessions for the years 1990 to 1995 is presented in Table 7-12.

Observer Exams, Certification, and Decertification: Nineteen certification exams have been held since inception of the SOP, attended by 389 candidates, of which 334 passed (86%). Through the end of 1995 there were 73 observers remaining in the SOP, the other 261 having been decertified for various reasons, mainly inactivity.

Three shellfish observer certification exam were held in Dutch Harbor during 1995. Fifty-three candidates participated, all but one passed and were issued trainee shellfish observer permits. Forty-two observers subsequently received full certification by the end of 1995, the rest remain in trainee status. Certification data by year since inception of the SOP is presented in Table 7-13.

In 1995, one observer was placed on suspension for violation of conflict of interest standards, one quit due to sea sickness, and one was decertified for data fabrication.

The North Pacific Fisheries Observer Training Center in Anchorage did not conduct scallop observer training courses during 1995 due to the emergency closure of federal waters to scallop fishing efforts for a majority of the year.

Evidence Collection: Evidence pertaining to illegal activities was collected by observers on 12 percent of trips conducted during the 1995 fisheries. Evidence collection by observers for the fishing years 1991 through 1995 is summarized in Table 7-14 and also in Figures 3-5.

Fisheries where most evidence was collected were the Bering Sea Tanner crab fisheries. Seventy-two percent, 65 percent, 72 percent, 67 percent, and 70 percent, respectively, of evidence collected during the 1991 through 1995 seasons came from these fisheries.

Data Analysis: Data collected by shellfish observers was summarized by the Assistant Research Biologist for the Bering Sea and Aleutian Islands. Analysis of this data is available in report form. The latest published report is titled "1995 Shellfish Observer Program Database Summary Report". This report includes all fisheries with shellfish observer coverage in 1995.

PROBLEMS WITH THE OBSERVER PROGRAM

Many problems that arose during the early years of the SOP have been resolved through tightening of regulations and better cooperation between industry, observer contractors, observers, and ADF&G. However, some problems continue to plague the program.

The structure of the SOP can result in pressure being exerted on contractors and observers by vessel owners and operators to circumvent program regulations.

Contractors are required to make all observer assignments. Requests from vessels for or against specific observers are not permitted and must be reported to ADF&G by the contractor. However, in the interest of maintaining contracts, contractors' decisions regarding observer assignments may be influenced by demands of the contracting vessels or companies. This violation of regulations can give vessels indirect control over observer placement.

The SOP structure places the observer in a position of potential compromise between ADF&G requirements (which include documenting illegal activities and collecting evidence) and possible pressure from the vessel and contractor to ignore violations. Overlooked violations can be beneficial to the contractor, observer, and vessel in the form of increased business for the contractor, a reduced workload, possible payoffs, future deployments or employment for the observer, and increased profits for the vessel.

Additional problems can occur when observers, immediately after debriefing, go to work as a crew member on vessels other than the assigned vessel. In this case, it is questionable whether a recently debriefed observer, exposed to confidential fishing information (catch rates and exact fishing locations etc.), should be allowed to work as a crew member on another vessel where such confidential information could be dispensed. Observers who participate in such activities are immediately suspended from the SOP for 12 months. This suspension is in effect decertification, since observers are decertified after 12 months of inactivity.

SUMMARY

Dutch Harbor was again the focal point of the SOP during 1995. All observer deployments in the crab fisheries were managed through the Dutch Harbor ADF&G office. Scallop fisheries occurred in all shellfish registration areas of the state, except in the Kodiak management area, during 1995. Observers deployed in these fisheries are supervised by staff from the local ADF&G area office that manages each fishery.

During 1995 three shellfish observer certification exam were given. Only one of the 53 candidates failed to pass, and the rest were given trainee shellfish observer certificates. Forty-two observers eventually obtained full certification, the rest remain in trainee status. Also in 1995, there were 8

observers decertified due to inactivity and two observers suspended. At year's, end 77 observers remained in the program.

Observers collected evidence on 12 percent of all shellfish observer trips during the 1995 fishing year. The largest portion of evidence (70%) was collected by observers deployed in the Bering Sea Tanner crab fisheries.

Problems with the SOP continue to center around the third party contractor system of obtaining and deploying observers. Many of the problems dealing with observer placement could be minimized if observer deployment were controlled by ADF&G and contractors were not forced to rely on payment for observer services directly from vessel owners.

Table 7-1. Summary of vessels, observer trips, number of deployed observers, number of certified observers at years end, observer months at sea, number of active contractors, and number of briefings and debriefings from program inception (first briefing September 20, 1988) through December 31, 1995.

	Vessels[a]				Observer	Deployed	Certified @	Observer	Active	Total	
Year	C/P	F/P	F/V	S/V	Trips	Observers	Year's End[b]	Months	Contractors	Debrief[d]	Brief[c]
1988	21	6	0	0	45	28	80	31.4	6	43	42
1989	22	12	0	0	124	53	98	124.0	7	127	123
1990	26	15	0	0	140	61	119	163.5	7	142	137
1991	33	18	0	1	282	105	99	352.4	6	282	370
1992	32	19	2	0	225	100	103	280.3	7	221	310
1993	29	21	14	11	235	80	62	216.3	7	181	231
1994	24	17	19	12	185	74	83	178.8	7	152	198
1995	21	15	50	8	211	91	77	213.0	5	205	273

[a]Unique vessels requiring observer coverage,
C/P = Catcher Processor, F/P = Floating Processor, F/V = Fishing Vessel, and S/V = Scallop Vessel.
[b]This represents the total number of observers who are certified on December 31, of each year.
[c] Includes some briefings for the next fishing year.
[d] Includes mid-trip debriefings.

Table 7-2. Summary of registered vessels, total observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery for the year[a] 1988.

Fishery	Registered Vessels C/P	Registered Vessels F/P	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
Dutch Harbor Brown King	1	0	1	2.2	0.6	1.9
Bristol Bay Red King	20	5	25	54.3	9.5	30.3
Adak Brown King	13	4	20	43.5	21.3	67.8
Totals	34	9	46	100	31.4	100

[a]September 1, 1988 through December 31, 1988.

Table 7-3. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, percentage of total observer months by fishery, for the year 1989.

Fishery	Registered Vessels C/P	Registered Vessels F/P	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
Norton Sound Red King	7	0	7	5.6	1.6	1.3
Bering Sea Brown King	2	0	2	1.6	1.5	1.2
Bering Sea Bairdi	5	0	6	4.8	8.4	6.8
South Peninsula Bairdi	0	2	2	1.6	0.7	0.6
Chukchi Sea Experimental	5	0	5	4.0	2.3	1.9
St. Matthew Blue King	15	6	21	16.9	8.8	7.1
Dutch Harbor Brown King	4	2	8	6.5	7.7	6.2
Bristol Bay Red King	18	12	30	24.2	16.6	13.4
Adak King	17	5	43	34.8	76.4	61.5
Totals	73	27	124	100	124.0	100

Table 7-4. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1990.

Fishery	Registered Vessels C/P	Registered Vessels F/P	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
Bering Sea Bairdi(season A)	9	9	22	15.7	28.8	17.6
Norton Sound Red King	4	0	4	2.9	0.5	0.3
St. Matthew Blue King	7	3	10	7.1	4.2	2.6
Dutch Harbor Brown King	6	1	7	5.0	8.4	5.1
Bristol Bay Red King	20	15	35	25.0	19.6	12.0
Adak King	11	2	27	19.3	60.7	37.1
Bering Sea Bairdi (season B)	21	10	35	25.0	41.3	25.3
Totals	78	40	140	100	163.5	100

Table 7-5. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, percentage of total observer months by fishery, for the year 1991.

Fishery	Registered Vessels C/P	Registered Vessels F/P	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
Bering Sea Opilio	26	17	149	52.7	216.8	61.6
Westward Regions Scallops	1	0	5	1.8	4.6	1.3
St. Matthew Blue King	9	2	11	3.9	5.3	1.5
Dutch Harbor Brown King	4	0	4	1.4	7.3	2.1
Bristol Bay Red King	25	14	39	13.8	19.8	5.6
Adak King	8	0	21	7.5	29.6	8.4
Bering Sea Bairdi	26	12	53	18.8	68.8	19.5
Totals	101 100	45	282	100	362.4	100

Table 7-6. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, percentage of total observer months by fishery, for the year 1992.

Fishery	Registered Vessels C/P	F/P	F/V[b]	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
Bering sea Opilio	30	16	0	106	47.1	156.3	55.8
St. Matthew Blue King	8	7	0	15	6.7	5.8	2.1
Dutch Harbor Brown King	5	0	0	6	2.7	7.2	2.6
Bristol Bay Red King	17	6	0	24	10.7	10.6	3.8
Adak King	8	1	0	20	8.9	32.8	11.7
Bering Sea Bairdi	23	9	0	43	19.1	64.0	22.8
Bering Sea Hair Crab[a]	1	0	2	3	1.3	1.3	0.5
St. Lawrence Blue King	1	0	0	1	0.4	0.2	0.1
Bering Sea Brown King	2	0	0	2	0.9	1.2	0.4
Norton Sound Red King	5	0	0	5	2.2	0.9	0.3
Totals	100	39	2	225	100	280.3	100

[a]Fishing vessels volunteering to carry ADF&G staff members.

Table 7-7. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, percentage of total observer months by fishery, for the year 1993.

Fishery	Registered Vessels C/P	F/P	F/V[b]	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
Bristol Bay Hair Crab	0	0	7	7	3.0	3.2	1.5
Adak Hair Crab	1	0	0	1	0.4	0.9	0.4
Norton Sound Red King	0	1	0	1	0.4	2.0	0.9
St. Matthew Blue King	3	4	0	7	3.0	3.5	1.6
Pribilof Red King	2	2	0	4	1.7	1.8	0.8
Bristol Bay Red King	16	7	0	25	10.6	13.8	6.4
Bering Sea Bairdi Crab	18	5	0	23	9.8	15.8	7.3
Bering Sea Opilio	25	21	0	63	26.9	93.8	43.3
Adak King	5	0	0	12	5.1	18.8	8.7
Bering Sea Hair Crab	0	0	12	14	6.0	20.8	9.6
Bering Sea Surf Clam	0	0	1	1	0.4	0.7	0.3
Bering Sea Snails	1	0	3	5	2.1	5.5	2.5
Statewide Scallops	0	0	11	72	30.6	36.2	16.7
Totals	71	40	34	235	100	216.8	100

[a]Fishing vessels required to carry observers.

Table 7-8. Summary of vessels registrations, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months by fishery for the year 1994.

Fishery	Registered Vessels C/P	F/P		Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
Bering Sea Opilio Crab	24	17	0	55	29.0	76.6	42.3
Bering Sea Tanneri	0	0	4	4	2.1	4.9	2.5
Dutch Harbor Tanneri	0	0	3	9	4.7	6.4	3.6
Adak Tanneri	0	0	1	1	0.5	0.6	0.3
Kodiak Tanneri	1	0	0	1	0.5	0.7	0.4
South Peninsula Tanneri	2	0	0	2	1.0	1.4	0.8
Bering Sea Hair Crab	0	0	10	12	6.3	15.2	8.4
Dutch Harbor Brown King	0	1	0	2	1.0	1.6	0.9
St. Matthew Blue King	6	1	0	7	3.7	3.6	2.1
Pribilof Red King	0	4	0	4	2.1	2.2	1.2
Bering Sea Bairdi	9	1	0	10	5.3	7.0	3.9
Adak King	3	1	0	11	8.4	15.1	9.6
Statewide Scallops	0	0	12	67	35.4	43.4	24.0
Totals	45	25	30	185	100	178.7	100

[a]Fishing vessels required to carry observers.

Table 7-9. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery for the year 1995.

Fishery	Registered Vessels			Observer Trips	% of Total Obs. Trips	Obs Months	% of Total Obs. Months
	C/P	F/P	F/V[a]				
Bering Sea Opilio Crab	19	15	0	50	18.7	51.4	24.1
Bering Sea Tanneri	0	0	8	16	8.1	19.5	9.2
Dutch Harbor Tanneri	0	1	7	15	7.6	23.2	10.9
Adak Tanneri	0	0	3	4	2.0	4.9	2.3
South Peninsula Tanneri	1	0	8	16	8.1	11.3	5.3
Southeast Tanneri	1	0	0	1	0.5	0.2	0.1
Bering Sea Hair Crab	0	0	21	22	11.1	21.5	10.0
St. Matthew Blue King	1	4	1[b]	6	3.0	3.1	1.5
Pribilof Red King	1	0	0	1	0.5	0.4	0.2
Bering Sea Bairdi	11	1	0	12	6.1	8.1	3.8
Adak King	2	2	14	29	14.6	35.4	16.6
Dutch Harbor Brown King	1	0	16	19	9.6	20.0	9.4
Bering Sea Octopus	0	0	3	3	1.5	1.0	0.5
Bering Sea Surf Clam	0	0	1	1	0.5	1.0	0.5
Dutch Harbor Angulatus	0	0	1	1	0.5	1.0	0.5
Statewide Scallops	0	0	8	15	7.6	11.0	5.1
Totals	37	23	91	211	100	213.0	100

[a]Fishing vessels required to carry observers.
[b]Fishing vessel volunteered to carry observer.

Table 7-10. Summary of vessel registrations, observer trips, percentage of total observer trips, observer months at sea, and percentage of observer months at sea for the Alaskan scallop fisheries during 1995.

Fishery	Vessel Registrations	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
Adak Scallops	1	1	6.7	.3	2.7
Dutch Harbor Scallops	1	3	20.0	2.0	18.2
Prince William Sound Scallops	2	2	13.3	0.9	8.2
Yakutat Scallops - January	8	9	60.0	7.8	70.9
Totals	12	15	100	11.0	100

Table 7-11 Summary of scallop vessel registrations, number of observer trips, and observer months at sea for the Alaskan scallop fisheries during 1993, 1994, and 1995.

	Vessel Registrations			Observer Trips			Observer Months		
Fishery	1993	1994	1995	1993	1994	1995	1993	1994	1995
Adak Scallops	0	0	1	0	0	1	0	0	0.3
Dutch Harbor Scallops	5	3	1	6	4	3	2.0	0.6	2.0
Bering Sea Scallops	9	8	0	12	8	0	9.7	12.6	0
Southeast Scallops	1	0	0	1	0	0	0.3	0	0
Yakutat Scallops January	-	10	8	-	10	9	-	3.6	7.8
July	7	5	-	7	5	-	3.1	2.7	-
Prince William Sound Scallops	7	0	2	7	0	2	2.1	0	0.9
Cook Inlet Scallops	0	2	0	0	2	0	0	0.3	0
Kodiak Scallops	9	11	0	30	26	0	15.5	18.7	0
South Peninsula Scallops	7	7	0	9	12	0	3.5	4.9	0
Totals	45	46	12	72	67	15	36.2	43.4	11.0

Table 7-12. Number of briefing, debriefing, and mid trip debriefing sessions by month and by year, 1991 through 1995.

	BRIEFINGS					DEBRIEFINGS					MID-TRIPS				
	91	92	93	94	95	91	92	93	94	95	91	92	93	94	95
JAN	45	52	44	42	39	29	31	18	7	2	0	18	9	0	0
FEB	18	19	7	2	18	23	21	9	2	48	15	20	8	0	4
MAR	34	11	25	25	9	28	11	49	54	6	32	19	1	2	5
APR	31	33	3	6	10	28	73	10	13	6	9	5	2	6	7
MAY	27	3	1	1	9	30	5	1	3	12	6	0	2	4	10
JUN	9	5	6	3	5	37	5	5	3	6	3	0	3	1	6
JUL	5	9	7	14	6	18	3	5	8	7	1	1	2	6	3
AUG	3	17	6	10	23	4	13	8	15	10	0	1	6	13	3
SEP	12	5	19	19	17	11	17	22	19	13	1	0	1	0	14
OCT	38	23	32	22	49	3	5	3	1	28	2	0	0	3	7
NOV	46	32	30	6	17	46	27	26	14	33	4	3	6	6	15
DEC	14	12	1	2	3	24	15	27	16	26	16	17	8	2	2
Totals	282	221	181	152	205	281	226	183	155	197	89	84	48	43	76

Table 7-13. Mandatory Shellfish Observer Program candidates by exam, number of candidates, number passed, number currently certified, number certified at year's end, and number of decertified observers.

Year	Number of Exams	Number Candidates	Number Passed	Number Currently Certified	Number Certified Year's End	Number Decertified	
						Inactivity[a]	Other[b]
1988	3	105	84	1	80	68	15
1989	1	54	44	3	98	37	4
1990	3	47	29	2	119	25	2
1991	4	64	61	5	99	53	3
1992	2	41	39	13	103	26	0
1993	2	19	19	6	62	12	1
1994	1	6	6	1	83	4	1
1995	3	53	52	42	77	8	2
Totals	19	389	334	73		233	28

[a]Decertified due to 12-month shellfish observer employment inactivity or trainee permit expiration after 180 days.
[b]Decertified for non-compliance with Shellfish Observer Program standards.

Table 7-14. Number of observer trips and observer trips where evidence was collected in the crab fisheries.

Fishery	Fishing Season	Observer Trips	Trips Evidence Collected	Percent of Each Fishery[a]	Percent of Total Evidence[b]
St. Matt./Prib Red and Blue King					
	91	11	0	0	0
	92	15	1	6.7	2.4
	93	11	1	9.1	5.5
	94	11	1	9.1	6.7
	95	7	1	14.3	4.3
Dutch Harbor Brown King					
	91	4	1	25.0	2.4
	92	6	1	16.7	2.4
	93	0	0	0	0
	94	2	1	50.0	6.7
	95	19	0	0	0
Bristol Bay Red King					
	91	39	8	20.5	19.0
	92	24	8	33.3	19.0
	93	25	3	12.0	16.7
Adak Red and Brown King					
	91	21	3	14.3	7.1
	92	20	5	25.0	11.9
	93	12	1	8.3	5.6
	94	11	2	18.2	13.3
	95	29	5	17.2	21.8
Bering Sea Bairdi					
	91	53	12	22.7	28.6
	92	43	8	18.6	19.0
	93	23	5	21.7	27.8
	94	10	2	20.0	13.3
	95	12	2	16.7	8.7
Bering Sea Opilio					
	91	149	18	12.1	42.9
	92	106	19	17.9	45.3
	93	63	8	12.7	44.4
	94	55	8	14.5	53.3
	95	50	14	28.0	60.9

-Continued-

Table 7-14. (page 2 of 2)

Fishery	Fishing Season	Observer Trips	Trips Evidence Collected	Percent of Each Fishery[a]	Percent of Total Evidence[b]
Bering Sea Hair Crab					
	92	3	0	0	0
	93	14	0	0	0
	94	12	0	0	0
	95	22	0	0	0
Tanneri All Areas[c]					
	94	17	1	5.9	6.7
	95	52	1	1.9	4.3
Miscellaneous[d] Fisheries					
	92	8	0	0	0
	93	15	0	0	0
	94	0	0	0	0
	95	5	0	0	0
SUMMARY					
	91	277	42	15.2	
	92	225	42	18.7	
	93	163	18	11.0	
	94	118	15	12.7	
	95	196	23	11.7	

[a] Percentage of trips evidence collected by fishery.

[b] Percentage of total evidence collected for the fishing year January 1 through December 31.

[c] Tanneri fishery areas include the following: Bering Sea, Adak, Dutch Harbor, Adak, Kodiak, South Peninsula, and Southeast.

[d] Miscellaneous fisheries include: Bering Sea Brown King, Octopus, Surf Clam, and Snail; St. Lawrence Blue King; Norton Sound Red King; Dutch Harbor Angulatus; and Bristol Bay Hair Crab.

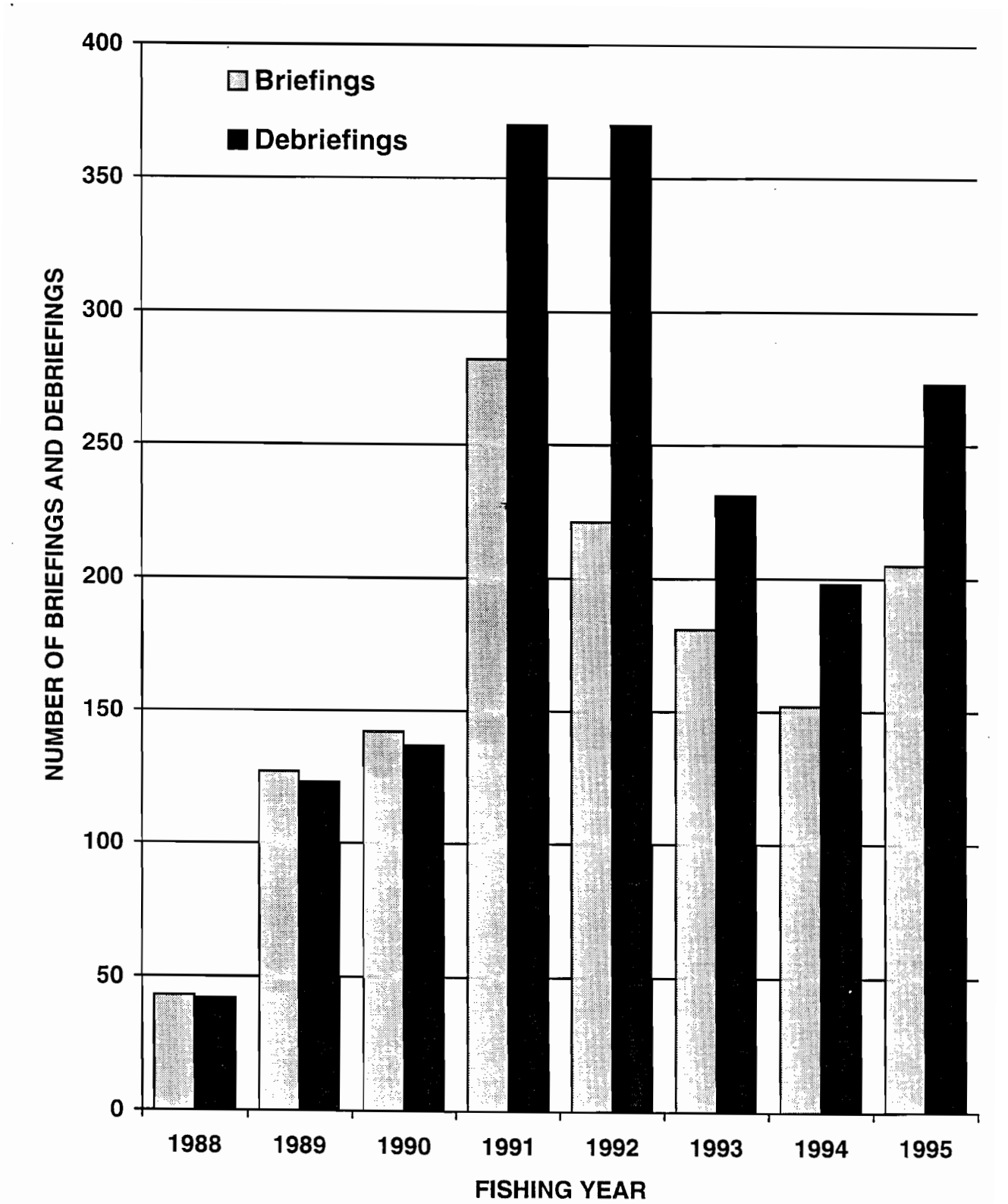


Figure 7-1. Number of briefing and debriefing sessions by fishery year, 1988 through 1995.

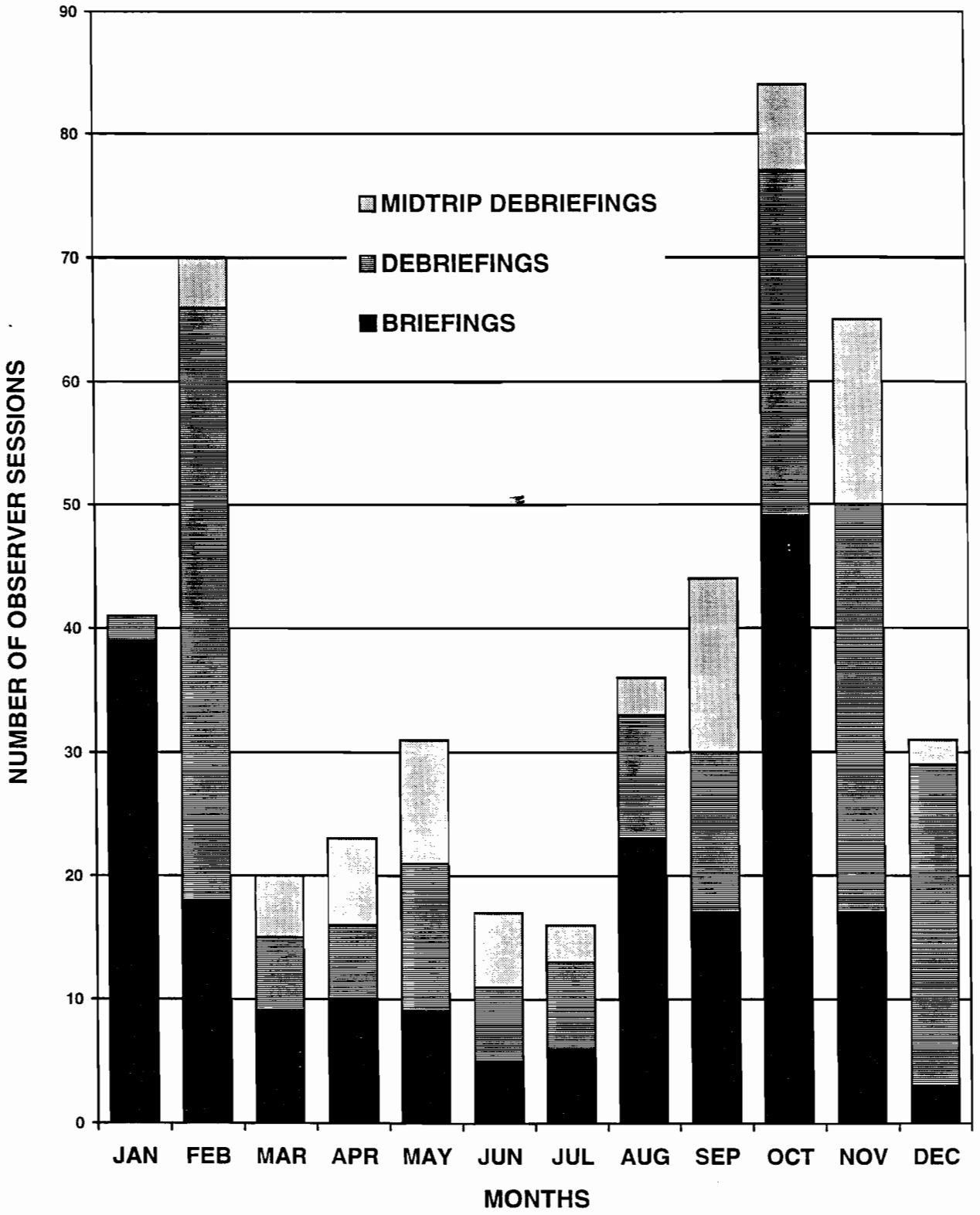
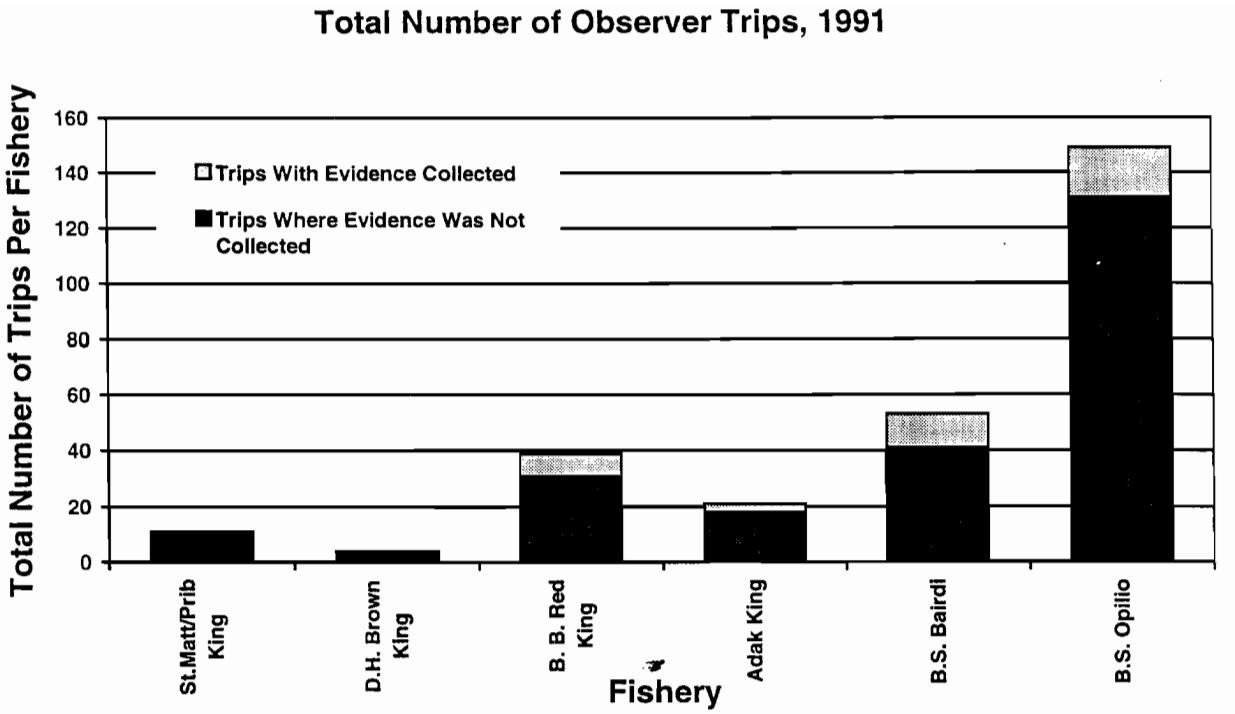


Figure 7-2. Number of observer sessions by month and session type (briefings, debriefings, and midtrip debriefings) for the year 1995.



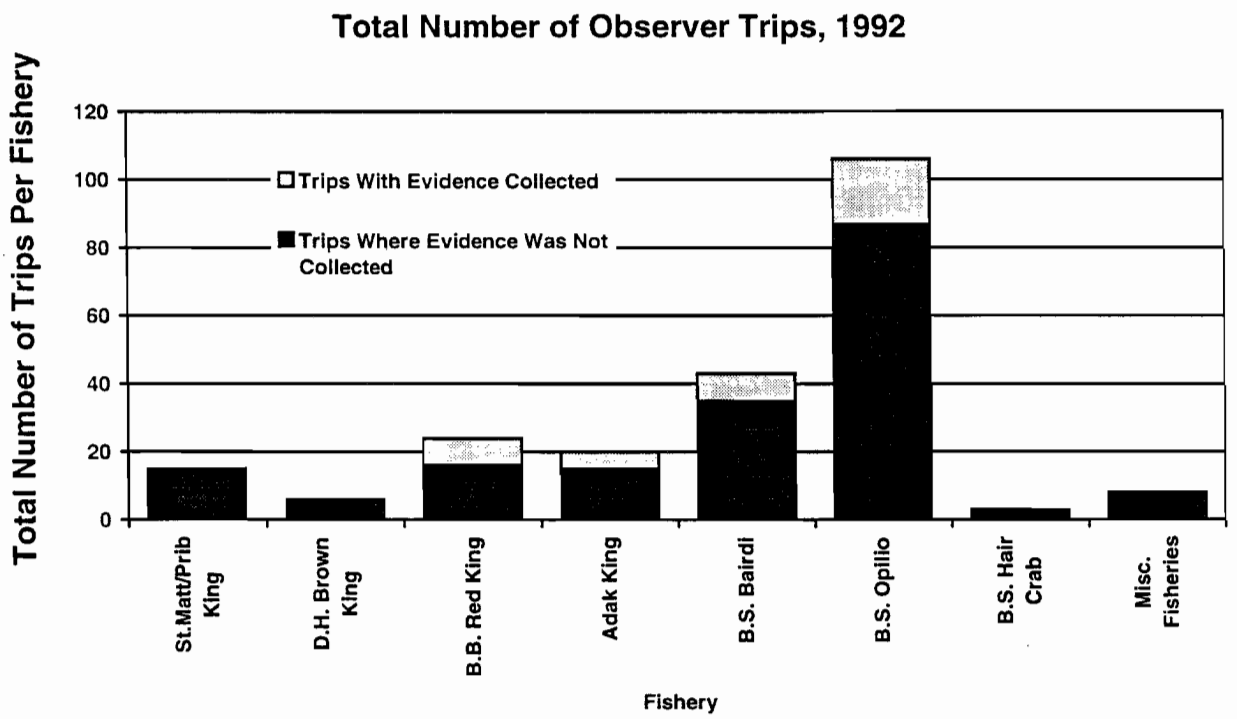


Figure 7-3. Number of observer trips and trips where evidence was collected for the years 1991 and 1992.

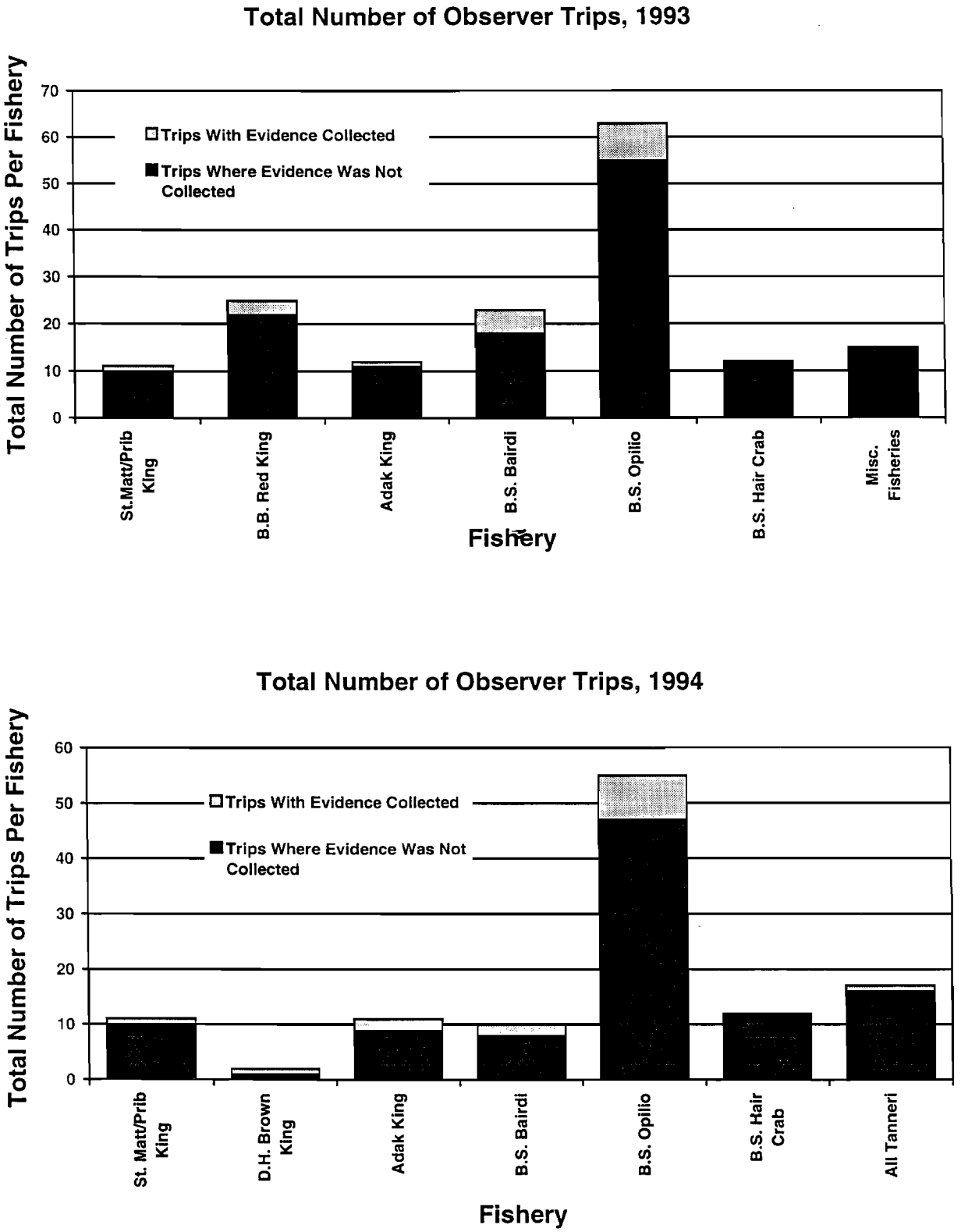


Figure 7-4. Total number of observer trips and trips where evidence was collected for the years 1993 and 1994.

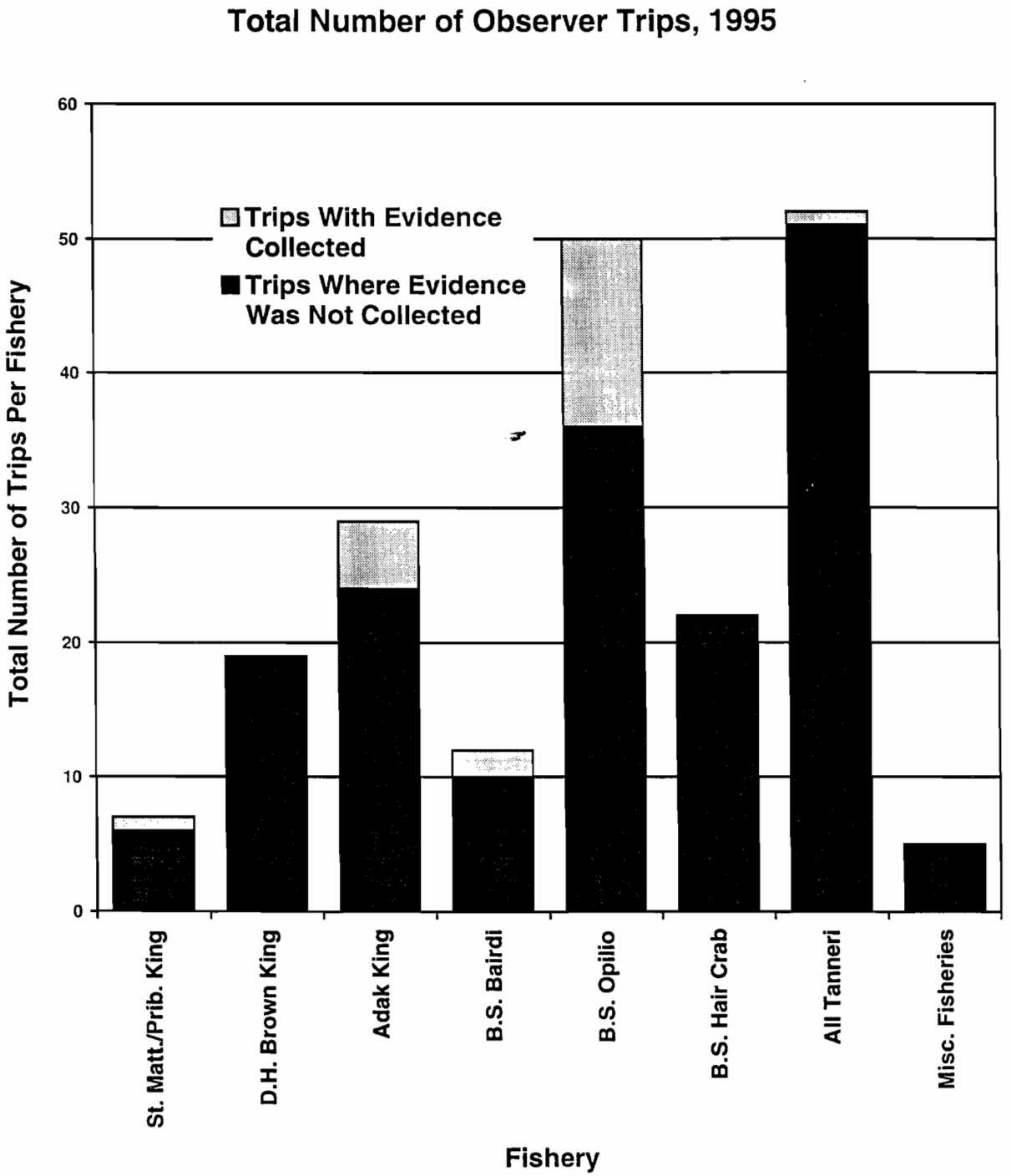


Figure 7-5. Total number of observer trips and trips where evidence was collected for the year 1995

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